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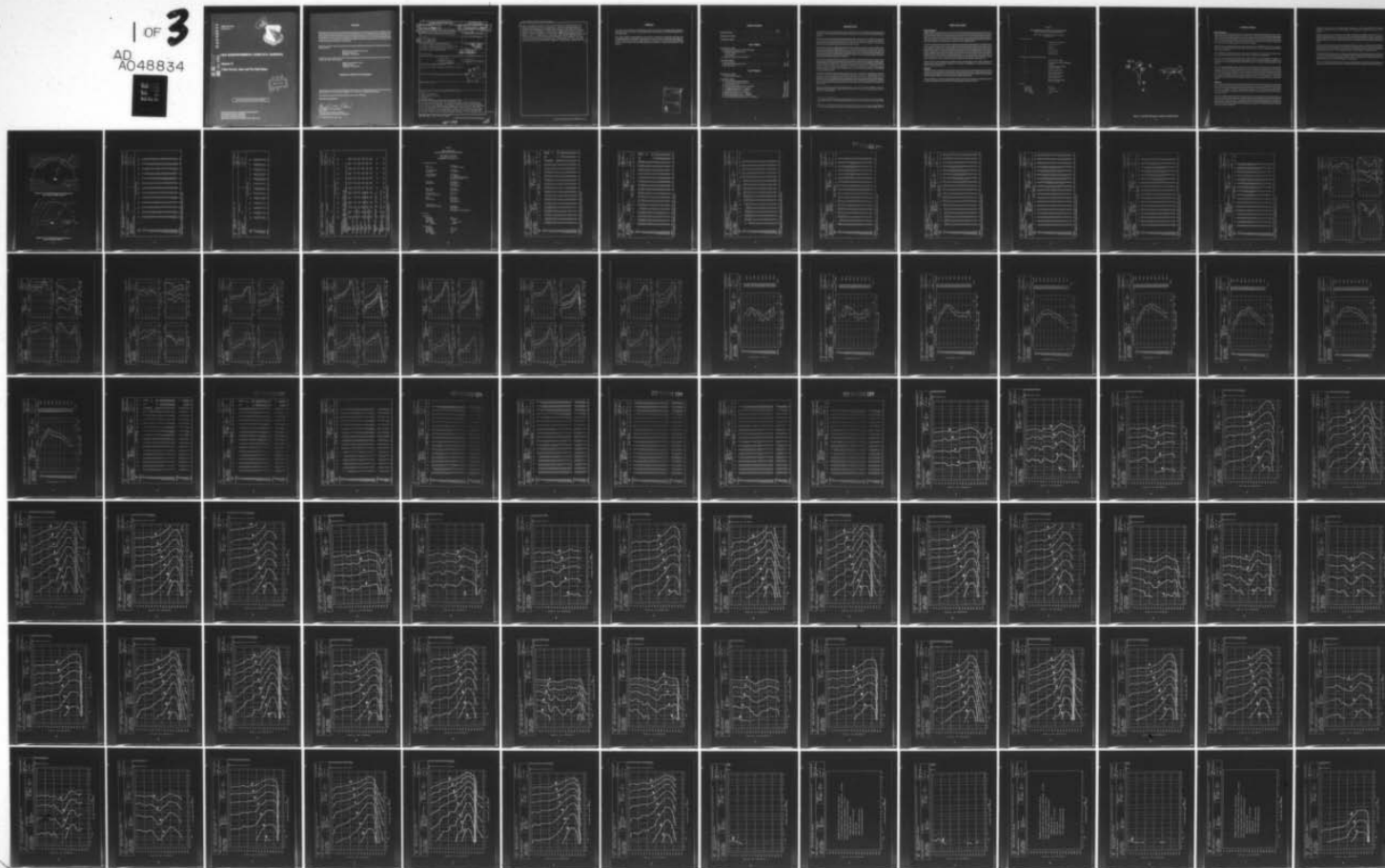
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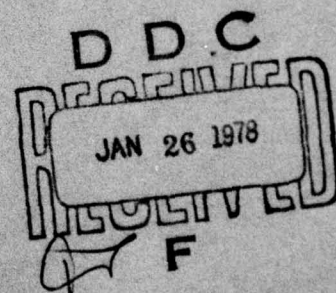


**USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK**

**Volume 74**

**T-38A Aircraft, Near and Far-Field Noise**

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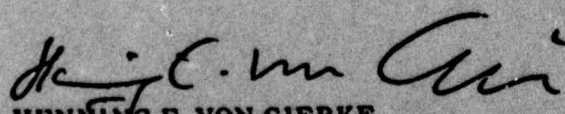
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This technical report has been reviewed and is approved for publication.

FOR THE COMMANDER

  
HENNING E. VON GIERKE  
Director  
Biodynamics and Bionics Division  
Aerospace Medical Research Laboratory

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| 20. ABSTRACT (Continue on reverse side if necessary and identify by block number)<br>The USAF T-38A aircraft is a supersonic flight trainer powered by two J85-GE-5A turbojet engines. This report provides measured and extrapolated data defining the bioacoustic environments produced by this aircraft operating on a concrete runup pad for eight engine/power configurations. Near-field data are reported for six locations in a wide variety of physical and psycho-acoustic measures: overall and band sound pressure levels, C-weighted and A-weighted sound levels, preferred speech interference level, perceived noise |   |   |  |

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level, and limiting times for total daily exposure of personnel with and without standard Air Force ear protectors. Far-field data measured at 19 locations are normalized to standard meteorological conditions and extrapolated from 75-8000 meters to derive sets of equal-value contours for these same seven acoustic measures as functions of angle and distances from the source. Refer to Volume 1 of this handbook, "USAF Bioenvironmental Noise Data Handbook, Vol 1: Organization, Content and Application", AMRL-TR-75-50(1) 1975, for discussion of the objective and design of the handbook, the types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc.



## PREFACE

This report was prepared by the Biodynamic Environment Branch, Aerospace Medical Research Laboratory, under Project/Task 723104, Measurement and Prediction of Noise Environments of Air Force Operations.

The author gratefully acknowledges Mr. John Cole for his assistance in preparing this report, Mr. Robert England for his assistance in acquiring the raw data, Mr. Keith Kettler, Mr. Henry Mohlman and Mr. David Eilerman of the University of Dayton for assistance in the mechanics of data processing and Mrs. Norma Peachey and Mr. Mike Patterson for assistance in typing and preparation of the graphics.

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## Table of Contents

|                        | <i>Page</i> |
|------------------------|-------------|
| INTRODUCTION .....     | 3           |
| NEAR-FIELD NOISE ..... | 4           |
| FAR-FIELD NOISE .....  | 7           |

## List of Tables

|  |       |
|--|-------|
| NEAR-FIELD NOISE                                   |       |
| 1. Measurement Locations and Test Conditions ..... | 5     |
| 2. Measured Sound Pressure Level                   |       |
| 1/3 Octave Band .....                              | 10    |
| Octave Band .....                                  | 11    |
| 3. Measures of Human Noise Exposure .....          | 12    |
| FAR-FIELD NOISE                                    |       |
| 4. Test Conditions .....                           | 13    |
| 5. Measured Sound Pressure Level .....             | 14—21 |
| 6. Directivity Index .....                         | 38—45 |

## List of Figures

|   |         |
|---|---------|
| NEAR-FIELD NOISE                                      |         |
| 1. Measurement Locations .....                        | 6       |
| FAR-FIELD NOISE                                       |         |
| 2. (A and B) Measurement Locations .....              | 9       |
| 3. Normalized Far-Field Noise Levels .....            | 22—29   |
| 4. Acoustic Power Level .....                         | 30—37   |
| 5. Overall Sound Pressure Level — Contours .....      | 46—53   |
| 6. C-Weighted Sound Level — Contours .....            | 54—61   |
| 7. A-Weighted Sound Level — Contours .....            | 62—69   |
| 8. Perceived Noise Level — Contours .....             | 70—77   |
| 9. Speech Interference Level — Contours .....         | 78—85   |
| 10. Permissible Exposure Time — Contours .....        | 86—121  |
| 11. Octave Band Sound Pressure Level — Contours ..... | 122—191 |

## INTRODUCTION

The USAF T-38A is a supersonic trainer-type aircraft powered by two J85-GE-5A turbojet engines. The aircraft was manufactured by the Northrup Corporation and the engines by the General Electric Company.

This volume provides measured and extrapolated data defining bioacoustic environments produced by this aircraft during ground runup operations. Such data are essential to evaluate ear protection requirements, limiting personnel exposure times, voice communication capabilities, and annoyance problems associated with ground runups of the T-38A aircraft.

This volume is one of a series published by the Aerospace Medical Research Laboratory (AMRL) under the same report number (AMRL-TR-75-50) as a multi-volume handbook that quantifies the noise environments produced at flight/ground crew locations and in surrounding communities by operations of Air Force aircraft and ground support equipment. The far-field, community-type noise data in the handbook describe the noise produced during *ground operations* of aircraft, ground support equipment, and other ground-based equipment or facilities.

Volume 1 of this handbook discusses the objectives and design of the handbook, types of data presented, measurement procedures, instrumentation, data processing, definitions of quantities, symbols, equations, applications, limitations, etc. Volume 2 provides a method and data for adjusting the handbook's far-field noise data, which are for standard meteorological conditions (15 C temperature, 70% rel humidity, 0.760 meters Hg barometric pressure), to derive comparable data for other meteorological conditions. *Refer to Volumes 1 and 2* (references 1 and 2) for such information because it is not repeated in other handbook volumes.

A cumulative index lists those aerospace systems contained in the handbook, and identifies the specific volumes containing each type of environmental noise data available (i.e., inflight/flight crew and passenger noise, near-field/ground crew noise, far-field/community noise). Volume numbers are assigned sequentially as individual volumes are published. This index is periodically updated as individually volumes are published and is available upon request from AMRL/BBE, Wright-Patterson AFB, OH 45433. Organizations on the distribution list for the handbook will automatically receive a copy of each updated index.

Direct any questions concerning the technical data in this report and other handbook volumes to: AMRL/BBE, Wright-Patterson AFB, OH 45433; AUTOVON 78-53675 or 78-53664; Commercial (513) 255-3675 or (513) 255-3664.

1. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 1: Organization, Content and Application*, AMRL-TR-75-50 (1), Aerospace Medical Research Laboratory, Wright-Patterson Air Force Base, Ohio, 1975
2. Cole, John N., *USAF Bioenvironmental Noise Data Handbook, Volume 2: Procedure to Evaluate Effects of Non-standard Meteorological Conditions on Far-Field Noise*, AMRL-TR-75-50 (2), AMRL, WPAFB, OH, 1975



## NEAR-FIELD NOISE

### MEASUREMENTS

AMRL acquired near-field noise data on the T-38A aircraft during ground runup operations of its turbojet engines and ground support equipment. For these tests, the aircraft was located on a concrete runup pad at Eglin AFB with no significant reflecting surfaces in the vicinity except the ground plane. Table 1 gives the surface meteorological conditions and the seven engine, ground support equipment, and power conditions. The ground-crew chief selected power conditions and near-field locations generally used during routine maintenance or engine runup for preflight checks.

At each near-field location a test engineer randomly moved a hand held microphone in and around each location, probing all areas where a crew member's head would normally be located. He recorded all of the noise samples on magnetic tape. During analysis of each sample, he determined the root-mean square sound pressure using a 4- or 8-second integration time to derive a power-averaged level for each location. Figure 1 shows the six near-field locations where ground crew are usually located for maintenance and/or preflight checkout operations. Estimates of noise levels at other locations in the near-field are difficult since the noise source is spatially distributed, i.e., not a point source. The noise levels at near-field locations can vary widely depending upon relative distances from each noise source (intake noise, exhaust noise, panel resonances, internal engine noise through the engine wall, etc.).

Table 1 lists the numeric/alphabetic designators used on the data pages in this report to identify the measurement locations and test conditions. For example, the designator 1/A means ground crew location 1 and test condition A.

### RESULTS

The measured data presented in Table 2 define the sound pressure levels (SPL) produced by the T-38A aircraft at the six ground crew locations. This table includes the overall, 1/3 octave band, and octave band levels. From these data one can calculate the variety of measures given in Table 3 which are widely used to assess the effects of noise on personnel and their performance.

All near-field data are for the meteorological conditions at the time of test but are valid for all typical airbase meteorology because of the short sound propagation distances involved.

TABLE 1  
MEASUREMENT LOCATIONS AND TEST CONDITIONS  
FOR NEAR-FIELD NOISE MEASUREMENTS

T-38A Aircraft, Ground Runup, Eglin AFB, 19 July 1971  
Tail # 701571

*Ground Crew Location*

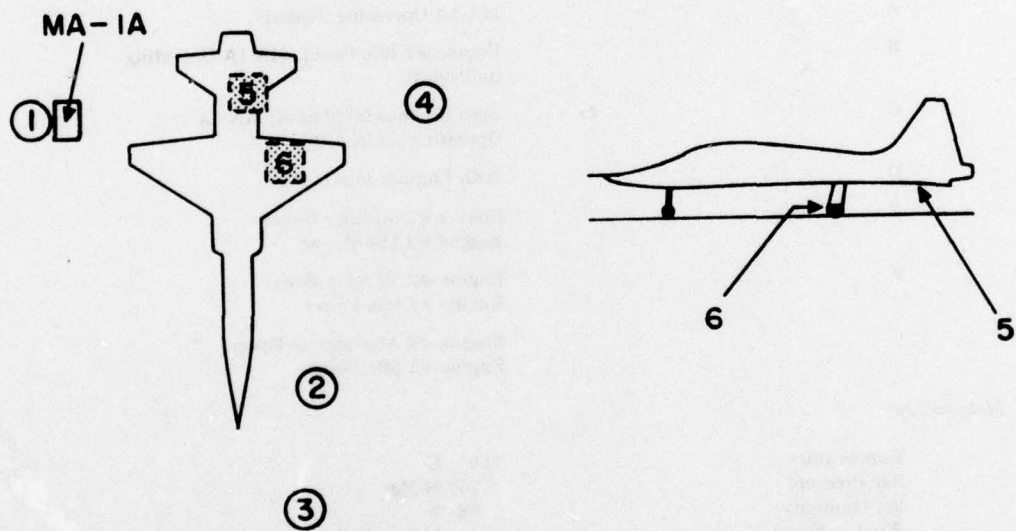
|   |                             |
|---|-----------------------------|
| 1 | Operator MA-1A (Power Unit) |
| 2 | Crew Chief Observer         |
| 3 | Marshal                     |
| 4 | Trim Personnel              |
| 5 | Trim Adjustment             |
| 6 | Wheel Chock Pull            |

*Aircraft Engine and Support Equipment Operation*

|   |   |
|---|---|
| A | MA-1A Operating (loaded)                            |
| B | Engine #1 Idle Power, MA-1A Operating (unloaded)    |
| C | Both Engines Idle Power, MA-1A Operating (unloaded) |
| D | Both Engines Idle Power                             |
| E | Engine #1 Military Power<br>Engine #2 Idle Power    |
| F | Engine #2 Military Power<br>Engine #1 Idle Power    |
| G | Engine #2 Afterburner Power<br>Engine #1 Idle Power |

*Meteorology*

|              |                  |
|--------------|------------------|
| Temperature  | 30.6 °C          |
| Bar Pressure | 0.759 M Hg       |
| Rel Humidity | 68 %             |
| Wind — Speed | 2.1 M/Sec (4 kt) |
| — Direction  | 240 °            |



**Figure 1. Near-Field Microphone Locations at Eglin AFB FL**



## FAR-FIELD NOISE

### MEASUREMENTS

AMRL acquired far-field data during 1-hour test periods at both Edwards and Eglin AFB bases. Figure 2 shows the ground runup pads, ground cover, aircraft orientation and the 19 microphone measurement sites on each semicircle. The centers of the 75 meter radius semicircles used in surveying the J85-GE-5A engines were on the ground directly below the intersection of the aircraft's centerline and the plane passing through both engines' exhaust-nozzle exits. The ground runup pads did not have blast deflector; therefore, the jet exhausts were in a "free-flow" condition.

Table 4 provides cockpit readouts of some engine characteristics (% RPM, fuel flow, etc.) for each power setting used in the far-field tests. Also listed in this table are the surface meteorological conditions during data acquisition.

All microphone measurement sites are in the acoustic far-field of the source where the sound wavefronts spherically diverge and the noise source may be regarded as a point source.

Test personnel acquired far-field noise data at Eglin AFB by using a hand-held microphone (1.7 meters/5-1/2 feet above the ground plane and pointed at the noise source, 0° incidence) and sequentially recording 5 to 10 seconds of data at each far-field location on a portable microphone/tape recorder system.

A similar microphone/tape-recorder system was used to sequentially record the noise at each far-field location at Edwards AFB. However, at Edwards the microphone was attached to a hand-held pole, pointed at the source (0° angle of incidence) and vertically scanned from 0.5 to 3 meters for a period of 5-10 seconds during data acquisition at each microphone location. Both Eglin and Edwards samples were then time-integrated to derive a root-mean-square sound pressure level. Vertical scanning and time-integrating together reduce anomalies frequently present in data acquired by a fixed height microphone and now constitute the standard far-field data acquisition/reduction technique used by the AMRL.

### RESULTS

Table 5 lists the overall and 1/3 octave band SPL measured at the far-field locations under meteorological conditions at the time of the test. Data in all other figures and tables are based on these levels. These data were normalized to 100 meters distance and standard meteorological conditions (15 C temperature, 70% relative humidity, 0.760 meter Hg barometric pressure) and used to derive the graphic data in Figure 3 which provides a compact summary of the far-field noise characteristics of the T-38A aircraft in a standard format.

Figure 4 and Table 6 present two basic acoustic measures, the acoustic power level and the directivity index, respectively. The acoustic power level describes the power radiated by the source as a function of frequency. The directivity index is a standard acoustical engineering measure that describes the geometric way in which the source radiates this power as a function of both frequency and angle from source. These basic source measures are primarily of interest for acoustical engineers and noise generation/control specialists.

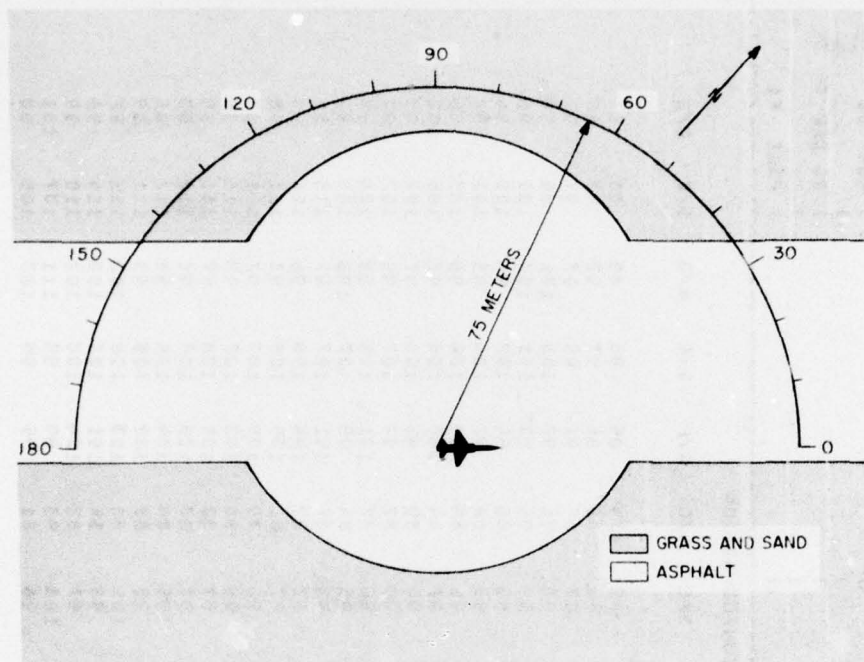
Estimates of noise levels for intermediate power conditions (e.g., 88% engine RPM) and/or different number of engines operating (e.g., single engine) can be determined as explained in Volume 1 of this handbook.

Figures 5 through 11 are sets of equal noise contours describing seven different measures of noise as a function of angle and distance from the source for standard day meteorology. They are respectively, overall sound pressure level, C-weighted sound level, A-weighted sound level, perceived noise level, speech interference level, permissible exposure times for personnel and octave band sound pressure levels.

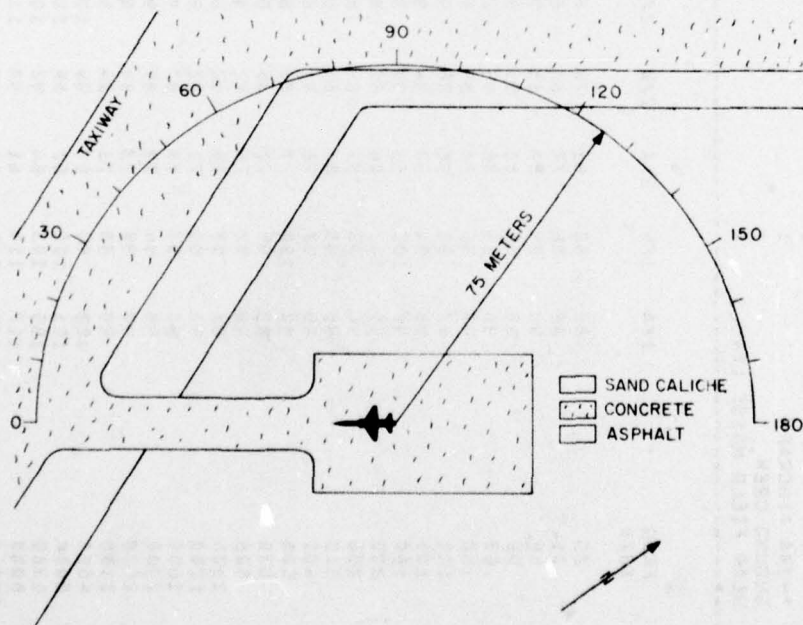
Data excessively influenced by spurious background/electronic noise were eliminated from all figures and tables. No data are presented at the 170 and/or 180 degree locations for two engine operation at power settings above 70% because of turbulent air flow behind the aircraft. Typically, the A-weighted levels for these angles are 10 to 20 dBA below those at the 160 degree microphone location.

Test personnel performed noise surveys during quiet periods when the background noise was minimal, e.g., early in the morning when no other aircraft or engine test stands were operating. Data eliminated because they were near the background/electronic noise were generally not significant because the levels were so low (e.g., Table 5 and Figure 11 at idle power).

Volume 2 of the handbook describes the influence of meteorology on far-field noise environments, and provides, if required, the factors necessary to adjust the handbook's standard meteorological day data.



**Figure 2 (a). Far-Field Microphone Locations at the Hot Cargo Pad, Eglin AFB FL**



**Figure 2(b). Far-Field Microphone Locations at Pad 17, Edwards AFB CA**



| TABLE: MEASURED SOUND PRESSURE LEVEL (DB)              |     |     |     |     |     |     |     |     |     |     |     |     |     |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2 1/3 OCTAVE BAND                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |
| NOISE SOURCE/SUBJECT: ( OPERATION: ) IDENTIFICATION: ) |     |     |     |     |     |     |     |     |     |     |     |     |     |
| T-38A AIRCRAFT ( ) OMEGA 3.2                           |     |     |     |     |     |     |     |     |     |     |     |     |     |
| GROUND CREW ( ) TEST 71-019-111                        |     |     |     |     |     |     |     |     |     |     |     |     |     |
| NEAR FIELD NOISE LEVELS ( ) RUN 01                     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| ( ) 04 DEC 74  |     |     |     |     |     |     |     |     |     |     |     |     |     |
| ( ) PAGE F1  |     |     |     |     |     |     |     |     |     |     |     |     |     |
| LOCATION/CONDITION                                     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| FREQ (HZ)  | 1/A | 1/B | 2/A | 2/B | 2/C | 3/D | 3/E | 4/D | 4/F | 4/G | 5/D | 5/E | 6/D |
| 25   | 88  | 83  | 61  | 75  | 79  | 72  | 82  | 74  | 85  | 95  | 89  | 88  | 81  |
| 31.5   | 88  | 86  | 77  | 80  | 85  | 75  | 82  | 80  | 86  | 97  | 92  | 93  | 86  |
| 40   | 90  | 89  | 87  | 88  | 92  | 78  | 87  | 85  | 91  | 99  | 97  | 97  | 92  |
| 50   | 88  | 93  | 88  | 91  | 95  | 81  | 90  | 91  | 93  | 100 | 101 | 99  | 98  |
| 63   | 90  | 94  | 86  | 89  | 93  | 80  | 89  | 90  | 93  | 101 | 100 | 101 | 96  |
| 80   | 93  | 96  | 78  | 85  | 89  | 79  | 89  | 86  | 94  | 102 | 94  | 100 | 94  |
| 100  | 87  | 90  | 95  | 96  | 97  | 82  | 95  | 88  | 97  | 104 | 95  | 102 | 98  |
| 125  | 95  | 94  | 93  | 94  | 95  | 84  | 96  | 89  | 99  | 106 | 96  | 103 | 96  |
| 160  | 98  | 103 | 93  | 96  | 96  | 85  | 97  | 94  | 100 | 108 | 97  | 105 | 102 |
| 200  | 95  | 102 | 84  | 88  | 87  | 80  | 94  | 89  | 98  | 108 | 97  | 107 | 93  |
| 250  | 94  | 98  | 87  | 89  | 88  | 77  | 95  | 87  | 99  | 107 | 96  | 107 | 93  |
| 315  | 95  | 99  | 80  | 85  | 89  | 78  | 96  | 87  | 101 | 106 | 98  | 108 | 94  |
| 400  | 96  | 97  | 76  | 81  | 85  | 82  | 96  | 84  | 99  | 107 | 105 | 109 | 94  |
| 500  | 92  | 100 | 77  | 83  | 86  | 73  | 98  | 80  | 101 | 107 | 97  | 115 | 88  |
| 630  | 92  | 95  | 77  | 85  | 86  | 76  | 97  | 82  | 104 | 106 | 96  | 114 | 90  |
| 800  | 90  | 92  | 75  | 82  | 88  | 79  | 97  | 81  | 105 | 108 | 93  | 111 | 88  |
| 1000   | 87  | 87  | 75  | 82  | 88  | 80  | 96  | 79  | 105 | 109 | 92  | 111 | 87  |
| 1250   | 90  | 90  | 72  | 82  | 90  | 80  | 95  | 80  | 103 | 107 | 93  | 110 | 86  |
| 1600   | 93  | 93  | 75  | 87  | 98  | 87  | 97  | 82  | 105 | 108 | 97  | 111 | 89  |
| 2000   | 95  | 94  | 72  | 85  | 98  | 91  | 97  | 83  | 105 | 109 | 98  | 112 | 90  |
| 2500   | 97  | 95  | 73  | 84  | 93  | 87  | 96  | 84  | 104 | 108 | 98  | 112 | 90  |
| 3150   | 99  | 98  | 71  | 84  | 94  | 86  | 95  | 83  | 102 | 105 | 98  | 111 | 89  |
| 4000   | 102 | 99  | 69  | 94  | 109 | 102 | 105 | 88  | 103 | 106 | 102 | 112 | 97  |
| 5000   | 101 | 101 | 67  | 85  | 100 | 97  | 98  | 84  | 101 | 103 | 100 | 114 | 90  |
| 6300   | 105 | 103 | 64  | 90  | 104 | 92  | 97  | 82  | 104 | 100 | 102 | 110 | 90  |
| 8000   | 117 | 114 | 61  | 98  | 116 | 102 | 108 | 93  | 99  | 99  | 111 | 107 | 101 |
| 10000  | 122 | 116 | 56  | 93  | 105 | 95  | 96  | 81  | 95  | 95  | 103 | 105 | 90  |
| OVERALL  | 123 | 119 | 100 | 105 | 117 | 106 | 112 | 101 | 115 | 120 | 115 | 124 | 109 |
| LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE. |     |     |     |     |     |     |     |     |     |     |     |     |     |

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

| TABLE: MEASURED SOUND PRESSURE LEVEL (DB)              |     |     |     |     |     |     |     |     |     |     |     |     |     |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 2  |     |     |     |     |     |     |     |     |     |     |     |     |     |
| NOISE SOURCE/SUBJECT: ( OPERATION: ) IDENTIFICATION: ) |     |     |     |     |     |     |     |     |     |     |     |     |     |
| T-38A AIRCRAFT ( ) OMEGA 3.2                           |     |     |     |     |     |     |     |     |     |     |     |     |     |
| GROUND CREW ( ) TEST 71-019-111                        |     |     |     |     |     |     |     |     |     |     |     |     |     |
| NEAR FIELD NOISE LEVELS ( ) RUN 01                     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| ( ) 04 DEC 74  |     |     |     |     |     |     |     |     |     |     |     |     |     |
| ( ) PAGE J1  |     |     |     |     |     |     |     |     |     |     |     |     |     |
| LOCATION/CONDITION                                     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| FREQ<br>( HZ)  | 1/A | 1/B | 2/A | 2/B | 2/C | 3/D | 3/E | 4/D | 4/F | 4/G | 5/D | 5/E | 6/D |
| 31.5   | 93  | 92  | 87  | 89  | 92  | 80  | 89  | 87  | 93  | 102 | 98  | 99  | 93  |
| 63   | 96  | 99  | 90  | 94  | 98  | 84  | 94  | 94  | 98  | 106 | 104 | 105 | 101 |
| 125  | 100 | 103 | 98  | 100 | 100 | 88  | 100 | 96  | 103 | 111 | 101 | 108 | 104 |
| 250  | 99  | 105 | 89  | 92  | 93  | 83  | 100 | 93  | 104 | 111 | 102 | 112 | 98  |
| 500  | 98  | 102 | 81  | 88  | 90  | 83  | 102 | 87  | 106 | 111 | 106 | 118 | 96  |
| 1000   | 94  | 95  | 79  | 87  | 94  | 84  | 101 | 84  | 109 | 113 | 97  | 115 | 92  |
| 2000   | 100 | 99  | 78  | 90  | 101 | 93  | 101 | 88  | 109 | 113 | 102 | 116 | 94  |
| 4000   | 105 | 104 | 74  | 95  | 109 | 103 | 106 | 90  | 107 | 109 | 105 | 117 | 98  |
| 8000   | 123 | 118 | 66  | 100 | 116 | 103 | 108 | 93  | 105 | 103 | 112 | 112 | 101 |
| OVERALL  | 123 | 119 | 100 | 105 | 117 | 106 | 112 | 101 | 115 | 120 | 115 | 124 | 109 |

| TABLE: MEASURES OF HUMAN NOISE EXPOSURE  |     |     |     |     |     |     |     |     |     |     | IDENTIFICATION: |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----------------|
| 3  |     |     |     |     |     |     |     |     |     |     | OMEGA 3.2       |
| NOISE SOURCE/SUBJECT: ( OPERATION: )   |     |     |     |     |     |     |     |     |     |     | TEST 71-019-111 |
| T-38A AIRCRAFT ( )   |     |     |     |     |     |     |     |     |     |     | RUN 01          |
| GROUND CREW ( )  |     |     |     |     |     |     |     |     |     |     | 04 DEC 74       |
| NEAR FIELD NOISE LEVELS ( )  |     |     |     |     |     |     |     |     |     |     | PAGE H1         |
| LOCATION/CONDITION   |     |     |     |     |     |     |     |     |     |     |                 |
| 1/A  | 1/B | 2/A | 2/B | 2/C | 3/D | 3/E | 4/D | 4/F | 4/G | 5/D | 5/E 6/D         |
| HAZARD/PROTECTION  |     |     |     |     |     |     |     |     |     |     |                 |
| C-WEIGHTED OVERALL SOUND LEVEL (OASLC IN DB) AT EAR                                    |     |     |     |     |     |     |     |     |     |     |                 |
| A-WEIGHTED OVERALL SOUND LEVEL (OASLA IN DB) AT EAR                                    |     |     |     |     |     |     |     |     |     |     |                 |
| MAXIMUM PERMISSIBLE TIME (T IN MINUTES) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) |     |     |     |     |     |     |     |     |     |     |                 |
| NO PROTECTION  |     |     |     |     |     |     |     |     |     |     |                 |
| OASLC  | 119 | 116 | 99  | 104 | 115 | 105 | 111 | 100 | 115 | 120 | 113 123 108     |
| OASLA  | 121 | 117 | 87  | 101 | 117 | 106 | 111 | 97  | 115 | 118 | 113 123 104     |
| T  | P   | 285 | 25  | P   | 11  | 4.5 | 50  | 2.2 | P   | 3.2 | P 15            |
| MINIMUM QPL EAR MUFFS  |     |     |     |     |     |     |     |     |     |     |                 |
| OASLA*   | 98  | 94  | 78  | 81  | 91  | 80  | 87  | 77  | 89  | 95  | 90 98 85        |
| T  | 42  | 85  | 960 | 807 | 143 | 960 | 285 | 960 | 202 | 71  | 170 42 404      |
| AMERICAN OPTICAL 1700 EAR MUFFS  |     |     |     |     |     |     |     |     |     |     |                 |
| OASLA*   | 96  | 92  | 73  | 77  | 88  | 76  | 82  | 73  | 84  | 90  | 86 92 81        |
| T  | 60  | 120 | 960 | 960 | 240 | 960 | 679 | 960 | 480 | 170 | 339 120 807     |
| V-51R EAR PLUGS  |     |     |     |     |     |     |     |     |     |     |                 |
| OASLA*   | 92  | 88  | 65  | 73  | 86  | 77  | 83  | 70  | 88  | 92  | 85 96 77        |
| T  | 120 | 240 | 960 | 960 | 339 | 960 | 571 | 960 | 240 | 120 | 404 60 960      |
| AMERICAN OPTICAL 1700 EAR MUFFS PLUS V-51R EAR PLUGS                                   |     |     |     |     |     |     |     |     |     |     |                 |
| OASLA*   | 83  | 79  | 54  | 62  | 76  | 63  | 70  | 57  | 75  | 78  | 73 82 65        |
| T  | 571 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 960 | 679 960         |
| H-133 GROUND COMMUNICATION UNIT  |     |     |     |     |     |     |     |     |     |     |                 |
| OASLA*   | 92  | 88  | 66  | 73  | 86  | 75  | 82  | 69  | 87  | 91  | 84 95 76        |
| T  | 120 | 240 | 960 | 960 | 339 | 960 | 679 | 960 | 285 | 143 | 480 71 960      |
| COMMUNICATION  |     |     |     |     |     |     |     |     |     |     |                 |
| PREFERRED SPEECH INTERFERENCE LEVEL (PSIL IN DB)                                       |     |     |     |     |     |     |     |     |     |     |                 |
| PSIL   | 97  | 99  | 79  | 88  | 95  | 87  | 101 | 86  | 108 | 112 | 102 117 94      |
| ANNOYANCE  |     |     |     |     |     |     |     |     |     |     |                 |
| PERCEIVED NOISE LEVEL, TONE CORRECTED (PNLT IN PNDB)                                   |     |     |     |     |     |     |     |     |     |     |                 |
| TONE CORRECTION (C IN DB)  |     |     |     |     |     |     |     |     |     |     |                 |
| PNLT   | 133 | 131 | 104 | 119 | 133 | 124 | 129 | 114 | 129 | 132 | 129 138 122     |
| C  | 1   | 2   | 2   | 3   | 3   | 3   | 3   | 2   | 1   | 0   | 2 1 2           |

\* BASED ON CALCULATED SPL SPECTRUM UNDER PROTECTIVE DEVICE.  
P ADDITIONAL EAR PROTECTION REQUIRED.



TABLE 4  
TEST CONDITIONS  
FOR FAR-FIELD NOISE MEASUREMENTS

T-38A Aircraft, Ground Runups  
Eglin AFB FL, 14 July 1971  
Edwards AFB CA, 21 September 1972

*Aircraft Engine Operation*

|   |   |
|---|---|
| Idle<br>(Eglin AFB)                         | Both Engines<br>48 % RPM, Core Speed  |
| 70 % Engine Runup<br>(Eglin AFB)            | Both Engines<br>70 % RPM, NC  |
| 75 % Engine Runup<br>(Edwards AFB)          | Both Engines<br>75 % RPM, NC<br>330 C. Exhaust Gas Temperature<br>800 LBS/HR, Fuel Flow |
| Trim Check<br>(Edwards AFB)                 | Both Engines<br>94 % RPM, NC<br>520 C, EGT<br>1,500 LBS/HR, FF                          |
| Military Power<br>(Eglin AFB)               | Single Engine<br>100 % RPM, NC  |
| Maximum Power<br>(Afterburner, Eglin AFB)   | Single Engine<br>100 % NC   |
| Military<br>(Edwards AFB)                   | Both Engines<br>100 % RPM, NC<br>640 C, EGT<br>2,100 LBS/HR, FF                         |
| Maximum Power<br>(Afterburner, Edwards AFB) | Both Engines<br>100 % RPM, NC<br>640 C, EGT<br>2,100 LBS/HR, FF (Plus afterburner)      |

*Meteorology*

*Eglin AFB*

|              |                 |
|--------------|-----------------|
| Temperature  | 30.6 C          |
| Bar Pressure | 0.760 M Hg      |
| Rel Humidity | 63 %            |
| Wind — Speed | 1 M/Sec (2 kts) |
| — Direction  | 250 Deg         |

*Edwards AFB*

|              |            |
|--------------|------------|
| Temperature  | 11.1 C     |
| Bar Pressure | 0.701 M Hg |
| Rel Humidity | 46 %       |
| Wind — Speed | Calm       |
| — Direction  | —          |

| TABLE: MEASURED SOUND PRESSURE LEVEL (DB) |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | IDENTIFICATION: |     |     |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----------------|-----|-----|
| 1/3 OCTAVE BAND                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |
| DISTANCE = 75 METERS                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | OMEGA 1.4       |     |     |
|   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | TEST 75-002-047 |     |     |
| NOISE SOURCE/SUBJECT:                     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | RUN 01          |     |     |
| ( OPERATION:                              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |
| ( IDLE                                    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |
| ( 48% RPM                                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |
| ( BOTH ENGINES                            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 20 OCT 75       |     |     |
| ( FREE FLOW                               |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |
| T-38A AIRCRAFT                            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |
| J85-GE-5A ENGINE                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |
| FAR FIELD NOISE                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | PAGE 2          |     |     |
| ANGLE (DEGREES)                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |
| FREQ                                      | 0   | 10  | 20  | 30  | 40  | 50  | 60  | 70  | 80  | 90  | 100 | 110 | 120 | 130 | 140 | 150 | 160             | 170 | 180 |
| (HZ)                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |
| 25  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |
| 31.5                                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |
| 40  | 66< | 66< | 67< | 65< | 67< | 69< | 69< | 70< | 66< | 70< | 70< | 70< | 67< | 71< | 71< | 69< | 69<             | 66< | 70< |
| 50  | 71< | 70< | 70< | 72< | 73< | 73< | 72< | 73< | 72< | 74< | 75< | 74< | 71< | 75< | 75< | 75< | 72<             | 69< | 72< |
| 63  | 68< | 68< | 70< | 69< | 72< | 72< | 70< | 71< | 72< | 72< | 73< | 73< | 73< | 74< | 75< | 73< | 68<             | 70< |     |
| 80  | 67< | 67< | 68< | 68< | 68< | 68< | 70< | 69< | 69< | 69< | 71< | 70< | 72< | 71< | 73< | 71< | 66<             | 64< |     |
| 100                                       | 69< | 68< | 70< | 69< | 66< | 70< | 70< | 70< | 69< | 71< | 72< | 73< | 73< | 75< | 76< | 73< | 66<             |     |     |
| 125                                       | 71< | 71< | 73< | 72< | 72< | 72< | 72< | 73< | 73< | 75< | 76< | 75< | 75< | 77< | 79< | 76< | 64<             |     |     |
| 160                                       | 74< | 75< | 77< | 76< | 76< | 76< | 78< | 79< | 78< | 80< | 80< | 79< | 77< | 79< | 80< | 78< | 66<             |     |     |
| 200                                       | 71< | 69< | 72< | 73< | 72< | 71< | 75< | 74< | 74< | 76< | 77< | 74< | 76< | 75< | 76< | 75< |                 |     |     |
| 250                                       | 64< | 66< | 68< | 66< | 68< | 68< | 69< | 70< | 69< | 71< | 72< | 71< | 73< | 72< | 70< | 72< |                 |     |     |
| 315                                       | 67< | 70< | 68< | 69< | 73< | 72< | 72< | 72< | 73< | 75< | 74< | 74< | 75< | 74< | 71< | 72< | 62<             |     |     |
| 400                                       | 66< | 71< | 69< | 72< | 73< | 70< | 70< | 72< | 73< | 75< | 75< | 76< | 75< | 75< | 74< | 72< | 68<             | 52< | 55< |
| 500                                       | 67< | 69< | 70< | 69< | 70< | 65< | 68< | 68< | 69< | 73< | 74< | 75< | 75< | 74< | 72< | 67< | 59<             | 51< |     |
| 630                                       | 64< | 64< | 66< | 65< | 63< | 60< | 63< | 63< | 63< | 66< | 69< | 70< | 73< | 72< | 65< | 64< | 57<             |     |     |
| 800                                       | 61< | 66< | 62< | 63< | 64< | 63< | 65< | 63< | 64< | 64< | 65< | 69< | 72< | 69< | 66< | 65< | 59<             | 43< | 48< |
| 1000                                      | 63< | 62< | 62< | 62< | 62< | 62< | 61< | 60< | 59< | 61< | 64< | 66< | 69< | 67< | 62< | 62< | 56<             | 42< | 45< |
| 1250                                      | 64< | 63< | 62< | 65< | 64< | 64< | 61< | 59< | 58< | 58< | 61< | 64< | 67< | 65< | 62< | 64< | 56<             | 44< | 48< |
| 1600                                      | 72< | 69< | 71< | 69< | 70< | 69< | 68< | 64< | 62< | 61< | 62< | 65< | 68< | 70< | 68< | 71< | 64<             | 53< | 56< |
| 2000                                      | 70< | 68< | 71< | 71< | 72< | 69< | 68< | 62< | 59< | 58< | 59< | 64< | 66< | 68< | 67< | 70< | 63<             | 53< | 54< |
| 2500                                      | 66< | 66< | 69< | 66< | 68< | 64< | 59< | 58< | 56< | 55< | 57< | 62< | 66< | 70< | 69< | 71< | 64<             | 54< | 55< |
| 3150                                      | 66< | 67< | 68< | 64< | 65< | 64< | 61< | 59< | 55< | 54< | 54< | 60< | 64< | 68< | 66< | 68< | 61<             | 50< | 50< |
| 4000                                      | 84< | 84< | 82< | 80< | 79< | 70< | 76< | 74< | 69< | 65< | 64< | 71< | 67< | 72< | 73< | 80< | 73<             | 63< | 60< |
| 5000                                      | 70< | 71< | 71< | 72< | 71< | 66< | 69< | 67< | 61< | 58< | 57< | 62< | 64< | 68< | 67< | 68< | 63<             | 53< | 52< |
| 6300                                      | 70< | 71< | 72< | 72< | 71< | 69< | 66< | 64< | 58< | 58< | 57< | 63< | 63< | 67< | 65< | 65< | 61<             | 51< | 52< |
| 8000                                      | 81< | 81< | 82< | 83< | 82< | 77< | 77< | 76< | 69< | 68< | 66< | 71< | 67< | 74< | 70< | 73< | 68<             | 58< | 58< |
| 10000                                     | 69< | 69< | 73< | 73< | 72< | 66< | 68< | 66< | 60< | 58< | 57< | 60< | 61< | 63< | 61< | 63< | 58<             | 48< | 50< |
| OVERALL                                   | 87  | 87  | 88  | 87  | 87  | 84  | 85  | 85  | 84  | 85  | 86  | 86  | 86  | 87  | 87  | 86  | 80              | 72  | 76  |

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

| TABLE 1 MEASURED SOUND PRESSURE LEVEL (DB)                       |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | IDENTIFICATION: |     |
|--|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----------------|-----|
| 1/3 OCTAVE BAND  |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| DISTANCE = 75 METERS   |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| NOISE SOURCE/SUBJECT:  |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| ( OPERATION:   |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| ( 70% RPM  |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| ( BOTH ENGINES   |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| ( FREE FLOW  |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| T-38A AIRCRAFT   |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| J85-GE-5A ENGINE   |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| FAR FIELD NOISE  |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| TEMP = 31 C  |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| BAR PRESS = .760 M HG  |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| REL HUMID = 63 %   |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| PAGE 2   |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| FREQ   |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| ( HZ)  |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| ANGLE (DEGREES)  |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| 25   | 67<  | 67< | 67< | 67< | 66< | 68< | 68< | 70< | 69< | 70< | 70< | 71< | 71< | 70< | 69< | 68< | 67<             | 69< |
| 31.5   | 67<  | 68< | 69< | 71< | 72< | 70< | 71< | 72< | 73< | 73< | 74< | 76< | 76< | 75< | 75< | 71< | 68<             | 70< |
| 40   | 68<  | 67< | 68< | 69< | 67< | 70< | 71< | 72< | 71< | 71< | 71< | 72< | 75< | 76< | 74< | 69< | 68<             | 68< |
| 50   | 67<  | 65< | 67< | 68< | 66< | 69< | 69< | 70< | 68< | 68< | 69< | 72< | 74< | 72< | 71< | 67< | 62<             | 62< |
| 63   | 67<  | 66< | 66< | 67< | 67< | 70< | 70< | 70< | 70< | 69< | 73< | 74< | 77< | 76< | 74< | 71< | 66<             | 66< |
| 80   | 71<  | 69< | 72< | 72< | 71< | 73< | 75< | 74< | 74< | 75< | 79< | 78< | 81< | 80< | 78< | 73< | 66<             | 66< |
| 100  | 78<  | 77< | 80< | 79< | 81< | 83< | 83< | 83< | 82< | 82< | 84< | 84< | 84< | 84< | 83< | 78< | 66<             | 66< |
| 125  | 75<  | 74< | 78< | 77< | 78< | 77< | 81< | 81< | 80< | 80< | 81< | 83< | 80< | 80< | 80< | 73< | 66<             | 66< |
| 160  | 69<  | 66< | 68< | 69< | 71< | 72< | 72< | 72< | 72< | 69< | 72< | 76< | 77< | 75< | 71< | 74< | 69<             | 69< |
| 200  | 64<  | 65< | 68< | 67< | 70< | 67< | 69< | 70< | 69< | 71< | 74< | 75< | 78< | 73< | 73< | 70< | 52<             | 52< |
| 250  | 69<  | 73< | 71< | 73< | 72< | 73< | 71< | 73< | 70< | 73< | 78< | 79< | 79< | 76< | 73< | 72< | 50<             | 52< |
| 315  | 67<  | 69< | 72< | 71< | 71< | 72< | 70< | 72< | 69< | 72< | 78< | 80< | 78< | 76< | 72< | 73< | 50<             | 52< |
| 400  | 64<  | 66< | 65< | 65< | 63< | 65< | 64< | 64< | 62< | 64< | 72< | 77< | 72< | 67< | 64< | 66< | 46<             | 44< |
| 500  | 63<  | 63< | 53< | 64< | 65< | 64< | 65< | 63< | 62< | 61< | 64< | 71< | 74< | 71< | 66< | 63< | 65<             | 42< |
| 630  | 63<  | 64< | 63< | 65< | 65< | 66< | 64< | 63< | 60< | 59< | 63< | 68< | 72< | 69< | 65< | 64< | 67<             | 46< |
| 800  | 69<  | 66< | 70< | 66< | 67< | 66< | 63< | 57< | 57< | 60< | 63< | 68< | 72< | 70< | 72< | 74< | 55<             | 52< |
| 1000   | 72<  | 70< | 69< | 69< | 73< | 71< | 69< | 66< | 58< | 59< | 62< | 67< | 71< | 68< | 73< | 74< | 56<             | 51< |
| 1250   | 70<  | 70< | 72< | 68< | 71< | 68< | 69< | 63< | 58< | 58< | 60< | 65< | 69< | 70< | 76< | 76< | 58<             | 53< |
| 1600   | 69<  | 68< | 70< | 66< | 69< | 67< | 62< | 58< | 56< | 55< | 59< | 63< | 68< | 72< | 71< | 73< | 53<             | 49< |
| 2000   | 75<  | 76< | 77< | 74< | 73< | 71< | 71< | 65< | 62< | 61< | 59< | 62< | 64< | 70< | 73< | 75< | 79<             | 54< |
| 2500   | 86<  | 84< | 86< | 84< | 82< | 78< | 80< | 76< | 74< | 71< | 70< | 69< | 67< | 73< | 73< | 77< | 59<             | 55< |
| 3150   | 72<  | 71< | 72< | 71< | 70< | 69< | 70< | 66< | 64< | 61< | 60< | 64< | 68< | 67< | 68< | 72< | 54<             | 50< |
| 4000   | 76<  | 76< | 77< | 74< | 73< | 70< | 70< | 64< | 61< | 59< | 62< | 65< | 70< | 68< | 67< | 70< | 54<             | 52< |
| 5000   | 78<  | 79< | 81< | 78< | 78< | 76< | 76< | 70< | 67< | 63< | 62< | 65< | 68< | 72< | 71< | 75< | 73<             | 57< |
| 6300   | 89   | 88  | 90  | 88  | 88  | 88  | 87  | 87  | 85  | 86  | 89  | 90  | 90  | 89  | 89  | 87  | 72              | 75  |
| 8000   | < LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE. |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |
| 10000  |  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |



| TABLE: MEASURED SOUND PRESSURE LEVEL (DB) |  |  |  |  |  |  |  |  |  |  |  |  |  | IDENTIFICATION:       |  |
|---|--|--|--|--|--|--|--|--|--|--|--|--|--|-----------------------|--|
| 1/3 OCTAVE BAND                           |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| DISTANCE = 75 METERS                      |  |  |  |  |  |  |  |  |  |  |  |  |  | OMEGA 1.4             |  |
|   |  |  |  |  |  |  |  |  |  |  |  |  |  | TEST 75-002-056       |  |
| NOISE SOURCE/SUBJECT:                     |  |  |  |  |  |  |  |  |  |  |  |  |  | RUN 01                |  |
| ( OPERATION:                              |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |
| ( ( 75% RPM                               |  |  |  |  |  |  |  |  |  |  |  |  |  | TEMP = 11 C           |  |
| ( ( BOTH ENGINES                          |  |  |  |  |  |  |  |  |  |  |  |  |  | BAR PRESS = .701 M HG |  |
| ( ( FREE FLOW                             |  |  |  |  |  |  |  |  |  |  |  |  |  | REL HUMID = 46 %      |  |
| FREQ                                      |  |  |  |  |  |  |  |  |  |  |  |  |  | PAGE 2                |  |
| ( (HZ)                                    |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |
|   |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |
|   |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |
|   |  |  |  |  |  |  |  |  |  |  |  |  |  |                       |  |
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BEST AVAILABLE COPY

| TABLE: MEASURED SOUND PRESSURE LEVEL (DB) |     |     |     |     |     |     |     |     |     |     |     |     |     |     | IDENTIFICATION: |     |     |     |  |
|---|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----------------|-----|-----|-----|--|
| 1/3 OCTAVE BAND                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |     |  |
| DISTANCE = 75 METERS                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |     |  |
| NOISE SOURCE/SUBJECT:                     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |     |  |
| ( OPERATION: )                            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |     |  |
| ( TRIM CHECK )                            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |     |  |
| ( 94% RPM )                               |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |     |  |
| ( BOTH ENGINES )                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |     |  |
| ( FREE FLOW )                             |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |     |  |
| T-38A AIRCRAFT                            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |     |  |
| J85-GE-5A ENGINE                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |     |  |
| FAR FIELD NOISE                           |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |     |  |
| METEOROLOGY: TEMP = 11 C                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |     |  |
| BAR PRESS = 701 M HG                      |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |     |  |
| REL HUMID = 46 %                          |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |     |  |
| PAGE 2                                    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |     |  |
| FREQ (HZ)                                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                 |     |     |     |  |
| 0   | 10  | 20  | 30  | 40  | 50  | 60  | 70  | 80  | 90  | 100 | 110 | 120 | 130 | 140 | 150             | 160 | 170 | 180 |  |
| 25  | 67< | 67< | 69< | 68< | 70< | 70< | 72< | 72< | 73< | 73< | 74< | 79  | 92  | 86  | 84              | 86  | 87  |     |  |
| 31.5                                      | 68< | 71< | 71< | 71< | 72< | 73< | 72< | 74  | 74  | 76  | 79  | 81  | 84  | 88  | 88              | 90  | 87  |     |  |
| 40  | 71< | 70< | 73< | 73< | 74  | 75  | 76  | 77  | 77  | 79  | 81  | 83  | 86  | 92  | 92              | 90  | 87  |     |  |
| 50  | 73< | 72< | 73< | 72< | 73< | 76  | 77  | 78  | 79  | 81  | 82  | 86  | 90  | 94  | 94              | 93  | 87  |     |  |
| 63  | 74< | 74< | 75< | 76< | 76< | 78  | 79  | 80  | 79  | 82  | 84  | 87  | 92  | 95  | 98              | 94  | 86  |     |  |
| 80  | 76  | 74< | 77  | 78  | 78  | 79  | 80  | 81  | 82  | 85  | 86  | 89  | 94  | 99  | 100             | 95  | 84  |     |  |
| 100                                       | 78  | 79  | 80  | 80  | 81  | 82  | 84  | 84  | 85  | 89  | 89  | 93  | 97  | 102 | 102             | 97  | 82  |     |  |
| 125                                       | 80  | 81  | 82  | 83  | 83  | 84  | 85  | 86  | 89  | 91  | 92  | 96  | 100 | 104 | 103             | 97  | 78  |     |  |
| 160                                       | 82  | 81  | 83  | 83  | 84  | 84  | 87  | 88  | 89  | 91  | 93  | 96  | 99  | 103 | 105             | 98  | 77  |     |  |
| 200                                       | 82  | 81  | 83  | 83  | 84  | 85  | 86  | 87  | 88  | 91  | 92  | 96  | 99  | 99  | 103             | 98  | 79  |     |  |
| 250                                       | 85  | 86  | 87  | 87  | 88  | 88  | 89  | 90  | 92  | 95  | 95  | 98  | 102 | 100 | 104             | 100 | 79  |     |  |
| 315                                       | 84  | 83  | 86  | 86  | 87  | 87  | 88  | 89  | 92  | 93  | 95  | 98  | 102 | 100 | 100             | 100 | 75  |     |  |
| 400                                       | 83  | 86  | 86  | 85  | 86  | 87  | 87  | 88  | 89  | 91  | 92  | 95  | 99  | 103 | 101             | 102 | 77  |     |  |
| 500                                       | 85  | 86  | 87  | 86  | 87  | 87  | 87  | 87  | 87  | 90  | 92  | 94  | 99  | 98  | 101             | 100 | 76  |     |  |
| 630                                       | 82  | 84  | 85  | 85  | 84  | 85  | 84  | 85  | 88  | 88  | 90  | 94  | 96  | 96  | 98              | 96  | 72  |     |  |
| 800                                       | 82  | 82  | 83  | 83  | 83  | 84  | 83  | 83  | 84  | 88  | 90  | 94  | 96  | 95  | 94              | 91  | 70  |     |  |
| 1000                                      | 82  | 82  | 81  | 81  | 82  | 82  | 82  | 82  | 84  | 88  | 91  | 94  | 96  | 94  | 93              | 90  | 68  |     |  |
| 1250                                      | 81  | 81  | 80  | 80  | 81  | 81  | 81  | 82  | 84  | 88  | 91  | 93  | 94  | 92  | 92              | 87  | 65  |     |  |
| 1600                                      | 80  | 79  | 80  | 81  | 81  | 81  | 82  | 82  | 85  | 89  | 91  | 93  | 94  | 91  | 88              | 83  | 61  |     |  |
| 2000                                      | 78  | 79  | 78  | 80  | 81  | 81  | 82  | 82  | 83  | 87  | 90  | 91  | 92  | 89  | 88              | 83  | 61  |     |  |
| 2500                                      | 78  | 78  | 79  | 80  | 81  | 81  | 82  | 82  | 83  | 87  | 88  | 90  | 91  | 87  | 86              | 81  | 59  |     |  |
| 3150                                      | 74  | 75  | 75  | 76  | 76  | 76  | 79  | 79  | 80  | 84  | 86  | 87  | 87  | 84  | 82              | 77  | 54  |     |  |
| 4000                                      | 73  | 73  | 74  | 75  | 77  | 77  | 77  | 78  | 78  | 84  | 84  | 85  | 85  | 81  | 80              | 75  | 52  |     |  |
| 5000                                      | 70  | 69  | 71  | 71  | 71  | 73  | 74  | 75  | 75  | 80  | 80  | 81  | 79  | 76  | 70              | 71  | 49  |     |  |
| 6300                                      | 67  | 66  | 68  | 68  | 69  | 70  | 71  | 72  | 72  | 77  | 77  | 78  | 76  | 73  | 72              | 68  | 45  |     |  |
| 8000                                      | 63  | 63  | 64  | 65  | 66  | 67  | 68  | 68  | 67  | 71  | 72  | 74  | 71  | 68  | 68              | 64  | 43  |     |  |
| 10000                                     | 60  | 59  | 61  | 62  | 62  | 64  | 64  | 65  | 64  | 68  | 70  | 70  | 67  | 65  | 65              | 62  | 41  |     |  |
| OVERALL                                   | 94  | 95  | 95  | 96  | 97  | 96  | 97  | 98  | 99  | 102 | 104 | 107 | 110 | 112 | 112             | 109 | 95  |     |  |

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

| TABLE: MEASURED SOUND PRESSURE LEVEL (DB)                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | IDENTIFICATION:         |  |
|--|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-------------------------|--|
| 1/3 OCTAVE BAND  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | ) OMEGA 1.4             |  |
| DISTANCE = 75 METERS                                     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | ) TEST 75-002-047       |  |
| NOISE SOURCE/SUBJECT:                                    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | ) RUN 03                |  |
| ( OPERATIONS:  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | ) METEOROLOGY:          |  |
| ( MILITARY POWER   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | ) TEMP = 31 C           |  |
| ( 100% RPM   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | ) BAR PRESS = .760 M HG |  |
| ( SINGLE ENGINE  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | ) REL HUMID = 63 %      |  |
| ( FREE FLOW  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | ) PAGE 2                |  |
| T-38A AIRCRAFT   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                         |  |
| J85-GE-5A ENGINE   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                         |  |
| FAR FIELD NOISE  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                         |  |
| FREQ<br>(HZ)   | 0   | 10  | 20  | 30  | 40  | 50  | 60  | 70  | 80  | 90  | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180                     |  |
| 25   |     |     |     |     |     | 66< | 68< | 66< | 71< | 71< | 69< | 75< | 76< | 81  | 81  | 79  | 82  | 84  | 82                      |  |
| 31.5   | 67< | 68< | 67< | 66< | 69< | 68< | 71< | 72< | 73< | 74< | 74< | 75< | 79  | 82  | 86  | 84  | 84  | 82  | 83                      |  |
| 40   | 69< | 70< | 71< | 70< | 70< | 70< | 73< | 75< | 74< | 77  | 75< | 79  | 82  | 85  | 88  | 90  | 84  | 81  | 84                      |  |
| 50   | 71< | 72< | 70< | 72< | 74  | 73< | 73< | 76  | 77  | 78  | 78  | 81  | 84  | 89  | 92  | 92  | 84  | 81  | 80                      |  |
| 63   | 72< | 73< | 73< | 75< | 77  | 75< | 75< | 76< | 79  | 80  | 81  | 84  | 88  | 92  | 95  | 95  | 86  | 76< | 77                      |  |
| 80   | 74  | 74  | 76  | 77  | 76  | 77  | 79  | 79  | 80  | 82  | 82  | 86  | 91  | 96  | 97  | 97  | 84  | 72< | 75                      |  |
| 100  | 77  | 77  | 78  | 79  | 79  | 80  | 81  | 83  | 83  | 86  | 86  | 89  | 94  | 99  | 102 | 100 | 85  | 73< | 71<                     |  |
| 125  | 78  | 79  | 80  | 80  | 81  | 82  | 83  | 85  | 86  | 88  | 90  | 92  | 96  | 101 | 106 | 100 | 87  | 76  | 72<                     |  |
| 160  | 81  | 82  | 84  | 83  | 85  | 84  | 86  | 88  | 89  | 92  | 93  | 96  | 100 | 103 | 109 | 103 | 89  | 76  | 73                      |  |
| 200  | 80  | 83  | 83  | 84  | 84  | 84  | 87  | 88  | 89  | 90  | 92  | 96  | 101 | 104 | 106 | 100 | 85  | 74  | 72<                     |  |
| 250  | 79  | 81  | 82  | 82  | 83  | 84  | 85  | 86  | 88  | 89  | 92  | 94  | 101 | 106 | 101 | 99  | 84  | 73  | 71                      |  |
| 315  | 79  | 82  | 82  | 83  | 86  | 85  | 86  | 87  | 90  | 92  | 94  | 97  | 102 | 109 | 105 | 100 | 85  | 78  | 72                      |  |
| 400  | 81  | 85  | 87  | 86  | 88  | 87  | 88  | 90  | 93  | 96  | 97  | 100 | 105 | 109 | 109 | 102 | 85  | 77  | 72                      |  |
| 500  | 84  | 88  | 89  | 88  | 90  | 89  | 91  | 93  | 94  | 97  | 98  | 102 | 107 | 112 | 108 | 101 | 86  | 78  | 73                      |  |
| 630  | 81  | 87  | 85  | 88  | 87  | 86  | 91  | 89  | 90  | 92  | 96  | 98  | 103 | 107 | 103 | 96  | 83  | 77  | 70                      |  |
| 800  | 79  | 83  | 87  | 86  | 88  | 87  | 88  | 91  | 92  | 96  | 98  | 101 | 105 | 109 | 106 | 95  | 82  | 75  | 67                      |  |
| 1000   | 80  | 85  | 86  | 87  | 88  | 87  | 89  | 90  | 91  | 92  | 96  | 99  | 101 | 105 | 103 | 90  | 91  | 71  | 65                      |  |
| 1250   | 81  | 84  | 86  | 87  | 88  | 88  | 89  | 91  | 93  | 94  | 96  | 100 | 102 | 102 | 103 | 89  | 79  | 70  | 65                      |  |
| 1600   | 79  | 83  | 85  | 86  | 86  | 88  | 90  | 89  | 92  | 91  | 94  | 97  | 101 | 96  | 101 | 86  | 75  | 67  | 62                      |  |
| 2000   | 80  | 83  | 86  | 87  | 87  | 88  | 90  | 90  | 93  | 92  | 95  | 97  | 101 | 94  | 99  | 85  | 76  | 66  | 61                      |  |
| 2500   | 79  | 82  | 85  | 86  | 86  | 88  | 89  | 90  | 93  | 90  | 94  | 96  | 100 | 95  | 96  | 84  | 73  | 64  | 59                      |  |
| 3150   | 76  | 79  | 82  | 84  | 84  | 86  | 87  | 88  | 90  | 88  | 92  | 92  | 97  | 94  | 91  | 80  | 70  | 61  | 57                      |  |
| 4000   | 81  | 79  | 82  | 83  | 84  | 85  | 87  | 88  | 90  | 88  | 93  | 91  | 97  | 95  | 88  | 79  | 70  | 61  | 56                      |  |
| 5000   | 73  | 74  | 78  | 80  | 80  | 83  | 85  | 86  | 88  | 86  | 89  | 89  | 95  | 89  | 86  | 77  | 66  | 58  | 53                      |  |
| 6300   | 73  | 73  | 77  | 79  | 79  | 82  | 84  | 84  | 87  | 84  | 87  | 86  | 93  | 87  | 86  | 75  | 65  | 57  | 54                      |  |
| 8000   | 80  | 72  | 75  | 78  | 76  | 80  | 82  | 81  | 85  | 82  | 84  | 85  | 92  | 86  | 84  | 74  | 63  | 54  | 50                      |  |
| 10000  | 69  | 66  | 69  | 71  | 71  | 76  | 77  | 77  | 80  | 81  | 83  | 84  | 89  | 81  | 79  | 69  | 59  | 50  | 45<                     |  |
| OVERALL  | 93  | 96  | 97  | 98  | 99  | 99  | 101 | 102 | 103 | 105 | 107 | 110 | 114 | 118 | 117 | 111 | 97  | 91  | 90                      |  |
| < LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE. |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                         |  |

< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.





| TABLE: MEASURED SOUND PRESSURE LEVEL (DB)  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 1/3 OCTAVE BAND  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| DISTANCE = 75 METERS   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NOISE SOURCE/SUBJECT:  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ( OPERATION: )   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ( MILITARY POWER )   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ( 100% RPM )   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ( BOTH ENGINES )   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ( FREE FLOW )  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T-38A AIRCRAFT   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| J85-GE-5A ENGINE   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FAR FIELD NOISE  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| METEOROLOGY: = 11 C  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BAR PRESS = .701 M HG  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| REL HUMID = 46 %   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PAGE 2   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IDENTIFICATION:  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OMEGA 1.4  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| TEST 75-002-056  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RUN 03   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 OCT 75  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FREQ (HZ)  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ANGLE (DEGREES)  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 70< 70< 70< 72< 74< 74< 73< 75< 77< 78< 77< 80< 83< 86< 90< 92< 91< 88               |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25 74 75 75 75 75 76 77 77 78 80 80 82 85 91 94 96 91 88                             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 31.5 76 78 76 78 78 78 79 81 81 82 84 85 86 91 96 100 98 88                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 50 78 78 79 81 81 81 83 83 85 85 86 88 89 91 94 101 105 104 86                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 63 79 79 79 81 81 81 83 83 85 85 86 88 89 91 94 101 105 104 85                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 90 80 81 81 81 82 83 84 85 86 87 88 89 91 92 94 98 103 107 102 82                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 100 82 83 83 84 84 85 86 87 88 89 90 91 92 94 98 103 107 102 82                      |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 125 84 85 84 84 85 86 87 88 89 90 91 92 94 98 103 107 102 82                         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 160 85 85 86 87 87 88 89 90 91 92 94 98 103 107 102 82                               |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 200 87 86 88 88 88 89 90 91 92 94 98 103 107 102 82                                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 315 89 88 91 91 91 91 91 91 91 91 91 91 91 91 91 91 91 91 91                         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 400 90 91 91 91 91 91 91 91 91 91 91 91 91 91 91 91 91 91 91                         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 500 91 91 91 91 91 91 91 91 91 91 91 91 91 91 91 91 91 91 91                         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 630 88 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89                         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 800 87 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89                         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1000 87 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89 89                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1250 85 86 85 85 86 86 86 86 86 86 86 86 86 86 86 86 86 86 86                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1600 83 84 84 84 86 86 86 86 86 86 86 86 86 86 86 86 86 86 86                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2000 80 83 83 83 86 86 86 86 86 86 86 86 86 86 86 86 86 86 86                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3150 76 80 80 82 82 82 82 82 82 82 82 82 82 82 82 82 82 82 82                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4000 75 79 79 80 80 80 80 80 80 80 80 80 80 80 80 80 80 80 80                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5000 72 75 75 76 76 76 76 76 76 76 76 76 76 76 76 76 76 76 76                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6300 68 71 72 72 72 72 72 72 72 72 72 72 72 72 72 72 72 72 72                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8000 62 66 66 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67 67                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10000 59 62 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64 64                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OVERALL 99 99 100 100 100 100 101 101 101 102 103 105 107 109 112 117 118 118 112 97 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

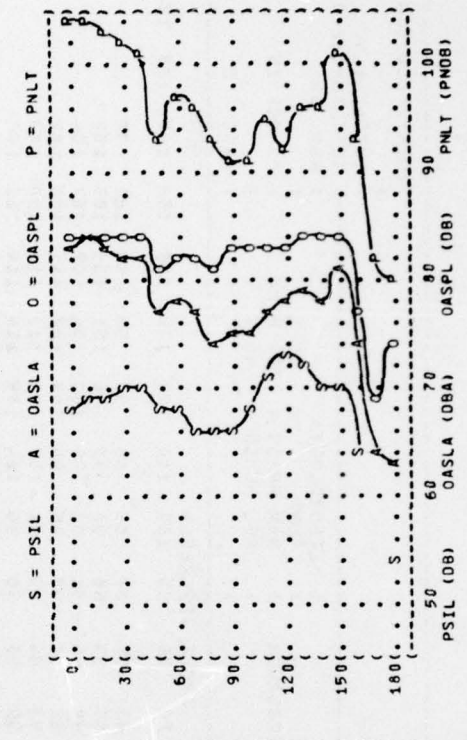
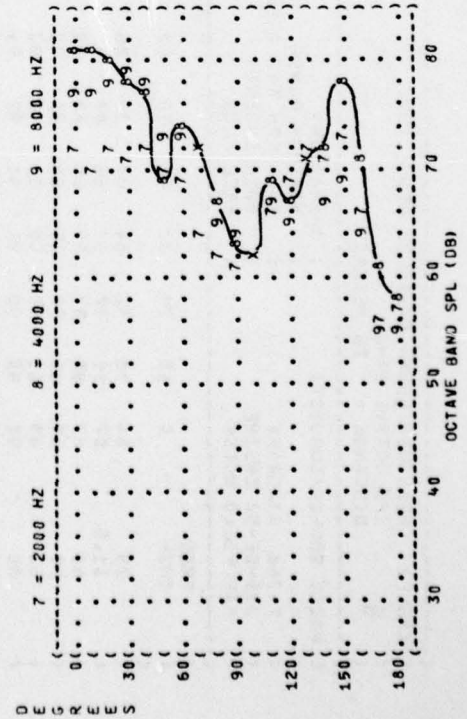
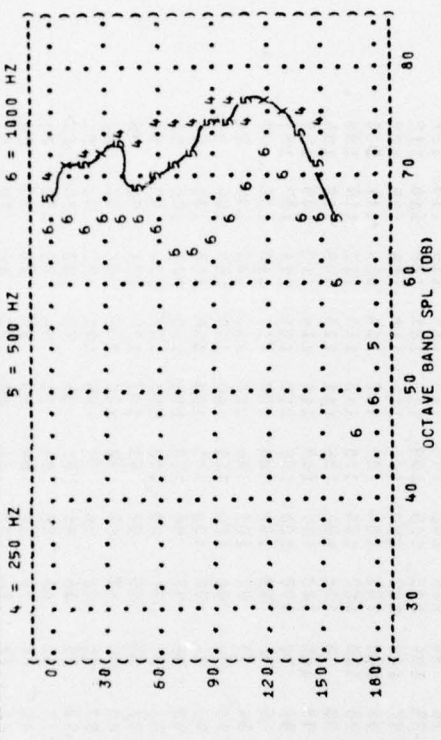
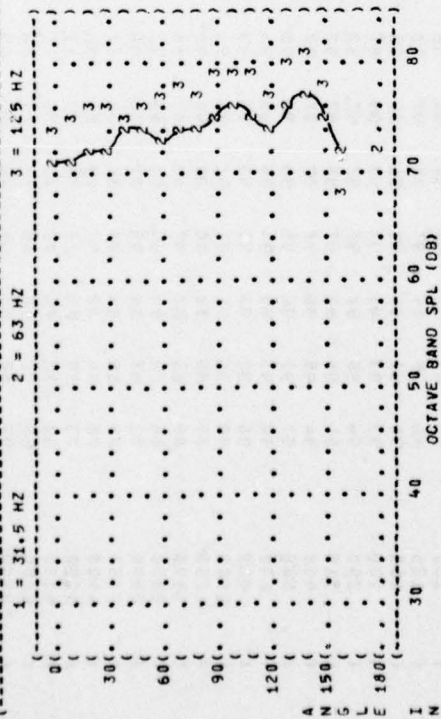
< LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.

| TABLE: MEASURED SOUND PRESSURE LEVEL (DB) |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|---|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 1/3 OCTAVE BAND                           |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| DISTANCE = 75 METERS                      |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| NOISE SOURCE/SUBJECT:                     |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| ( OPERATION: )                            |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| ( MAXIMUM POWER )                         |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| ( 100% RPM AND AFTERBURNER )              |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| ( BOTH ENGINES )                          |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| ( FREE FLOW )                             |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| METEOROLOGY: = 11 C                       |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| TEMP                                      |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| RAP PRESS = .701 M HG                     |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| REL HUMID = 46 %                          |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| IDENTIFICATION:                           |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| OMEGA 1.4                                 |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| TEST 75-002-056                           |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| RUN 04                                    |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 20 OCT 75                                 |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| PAGE 2                                    |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| FREQ                                      | ANGLE (DEGREES) |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| (HZ)                                      | 0               | 10  | 20  | 30  | 40  | 50  | 60  | 70  | 80  | 90  | 100 | 110 | 120 | 130 | 140 | 150 |
| 25  | 84              | 83  | 82  | 84  | 83  | 86  | 86  | 83  | 85  | 87  | 85  | 88  | 92  | 98  | 99  | 100 |
| 31.5                                      | 87              | 86  | 87  | 87  | 86  | 88  | 87  | 87  | 89  | 88  | 90  | 93  | 96  | 101 | 105 | 103 |
| 40  | 87              | 88  | 87  | 88  | 88  | 88  | 89  | 90  | 90  | 91  | 92  | 95  | 100 | 104 | 107 | 104 |
| 50  | 87              | 88  | 88  | 89  | 89  | 91  | 92  | 92  | 93  | 93  | 95  | 98  | 103 | 107 | 111 | 108 |
| 63  | 88              | 89  | 90  | 90  | 91  | 90  | 93  | 93  | 94  | 95  | 98  | 100 | 105 | 110 | 111 | 109 |
| 80  | 90              | 90  | 90  | 91  | 93  | 92  | 94  | 95  | 95  | 98  | 99  | 104 | 109 | 114 | 114 | 111 |
| 100                                       | 92              | 93  | 92  | 94  | 94  | 94  | 96  | 96  | 98  | 100 | 102 | 106 | 113 | 118 | 115 | 114 |
| 125                                       | 96              | 95  | 95  | 97  | 96  | 97  | 98  | 99  | 101 | 103 | 105 | 109 | 115 | 121 | 120 | 118 |
| 160                                       | 94              | 93  | 94  | 96  | 96  | 96  | 96  | 97  | 100 | 102 | 103 | 106 | 111 | 118 | 116 | 115 |
| 200                                       | 93              | 93  | 95  | 95  | 96  | 95  | 97  | 98  | 100 | 101 | 104 | 108 | 110 | 114 | 114 | 114 |
| 250                                       | 94              | 95  | 97  | 97  | 97  | 97  | 98  | 98  | 100 | 102 | 104 | 110 | 113 | 113 | 112 | 114 |
| 315                                       | 94              | 95  | 96  | 97  | 97  | 97  | 97  | 98  | 98  | 101 | 104 | 106 | 111 | 113 | 109 | 110 |
| 400                                       | 94              | 95  | 96  | 97  | 97  | 97  | 97  | 98  | 100 | 103 | 105 | 108 | 111 | 114 | 112 | 109 |
| 500                                       | 93              | 95  | 96  | 96  | 96  | 98  | 96  | 98  | 98  | 100 | 103 | 106 | 110 | 111 | 111 | 107 |
| 630                                       | 90              | 93  | 95  | 94  | 94  | 95  | 94  | 95  | 96  | 98  | 102 | 106 | 109 | 111 | 110 | 106 |
| 800                                       | 90              | 92  | 93  | 93  | 93  | 95  | 93  | 94  | 95  | 97  | 102 | 106 | 111 | 113 | 109 | 106 |
| 1000                                      | 89              | 91  | 91  | 91  | 92  | 92  | 91  | 93  | 94  | 96  | 100 | 105 | 108 | 110 | 108 | 104 |
| 1250                                      | 87              | 89  | 88  | 88  | 90  | 90  | 90  | 92  | 94  | 97  | 100 | 105 | 108 | 110 | 107 | 102 |
| 1600                                      | 85              | 89  | 87  | 87  | 89  | 90  | 90  | 93  | 95  | 97  | 99  | 103 | 106 | 106 | 105 | 100 |
| 2000                                      | 85              | 89  | 86  | 86  | 89  | 89  | 91  | 92  | 95  | 97  | 99  | 102 | 105 | 107 | 104 | 99  |
| 2500                                      | 82              | 87  | 84  | 85  | 87  | 88  | 90  | 91  | 93  | 95  | 97  | 99  | 103 | 105 | 101 | 96  |
| 3150                                      | 79              | 85  | 81  | 83  | 85  | 86  | 87  | 88  | 90  | 93  | 95  | 97  | 100 | 102 | 98  | 93  |
| 4000                                      | 76              | 84  | 80  | 81  | 83  | 84  | 86  | 87  | 88  | 92  | 94  | 95  | 99  | 101 | 97  | 91  |
| 5000                                      | 73              | 79  | 75  | 77  | 78  | 80  | 81  | 83  | 85  | 88  | 91  | 91  | 95  | 98  | 93  | 88  |
| 6300                                      | 67              | 73  | 70  | 72  | 73  | 75  | 76  | 78  | 80  | 83  | 85  | 86  | 91  | 94  | 89  | 83  |
| 8000                                      | 65              | 70  | 68  | 69  | 71  | 73  | 74  | 76  | 77  | 81  | 82  | 84  | 90  | 95  | 88  | 80  |
| 10000                                     | 59              | 65  | 63  | 64  | 66  | 68  | 69  | 71  | 72  | 76  | 77  | 81  | 86  | 92  | 86  | 78  |
| OVERALL                                   | 104             | 105 | 106 | 106 | 107 | 107 | 108 | 108 | 110 | 112 | 115 | 118 | 123 | 126 | 125 | 124 |
|   |                 |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 118 |

LEVEL CORRECTED TO REMOVE BACKGROUND/ELECTRONIC NOISE.



( FIGURE: NORMALIZED FARFIELD NOISE LEVELS  
 ( 3 DISTANCE = 100 METERS  
 ( NOISE SOURCE/SUBJECT:  
 ( T-38A AIRCRAFT  
 ( J85-GE-5A ENGINE  
 ( FAR FIELD NOISE  
 ( ) IDENTIFICATION:  
 ( ) OMEGA 1.4  
 ( ) TEST 75-002-047  
 ( ) RUN 01  
 ( ) METEOROLOGY:  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( ) PAGE 6



( FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS  
 ( 3 DISTANCE = 100 METERS  
 ( NOISE SOURCE/SUBJECT:  
 ( T-38A AIRCRAFT  
 ( J85-GE-5A ENGINE  
 ( FAR FIELD NOISE  
 ( OPERATION:  
 ( 70% RPM  
 ( BOTH ENGINES  
 ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-047  
 ( RUN 02  
 ( 20 OCT 75  
 ( PAGE 6

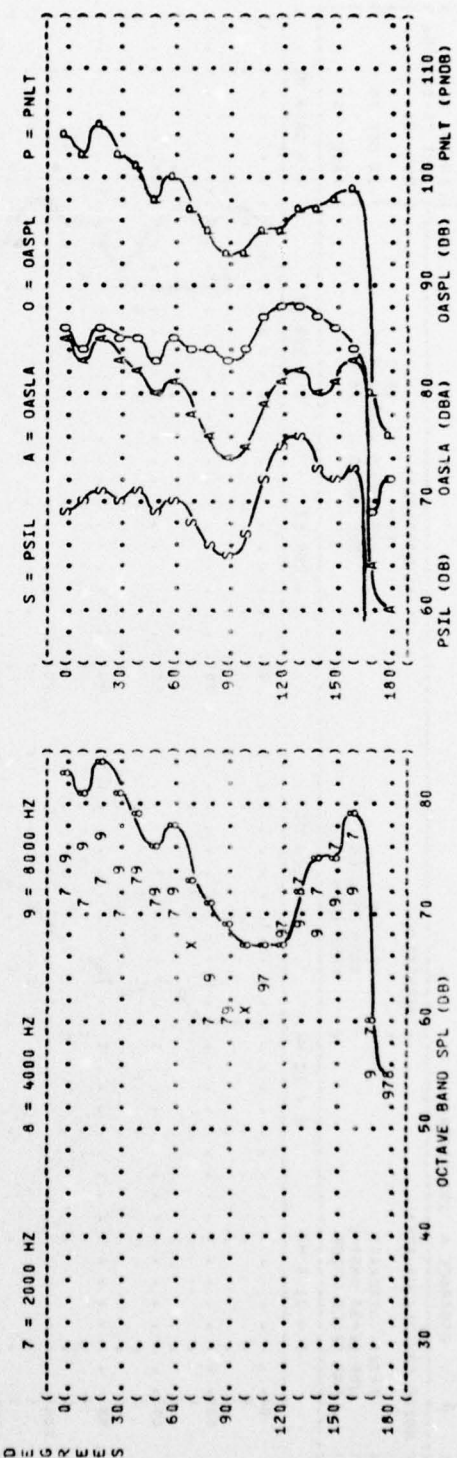
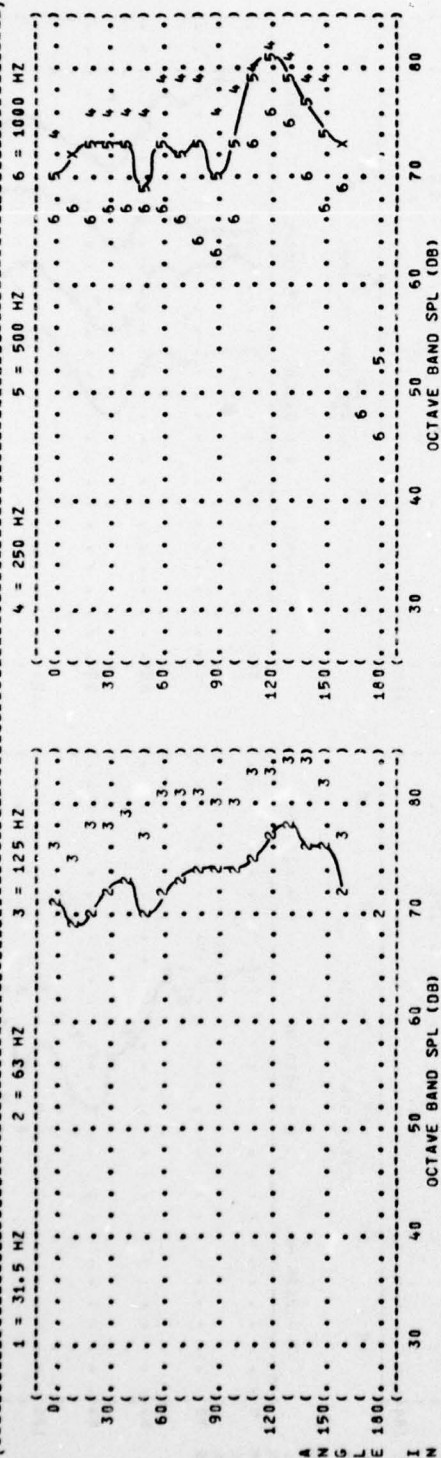


FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

T-38A AIRCRAFT

J85-GE-5A ENGINE

FAR FIELD NOISE

OPERATION:

( 75% RPM

( BOTH ENGINES

( FREE FLOW

METEOROLOGY:

TEMP = 15 C

BAR PRESS = .760 M HG

REL HUMID = 70 %

IDENTIFICATION:

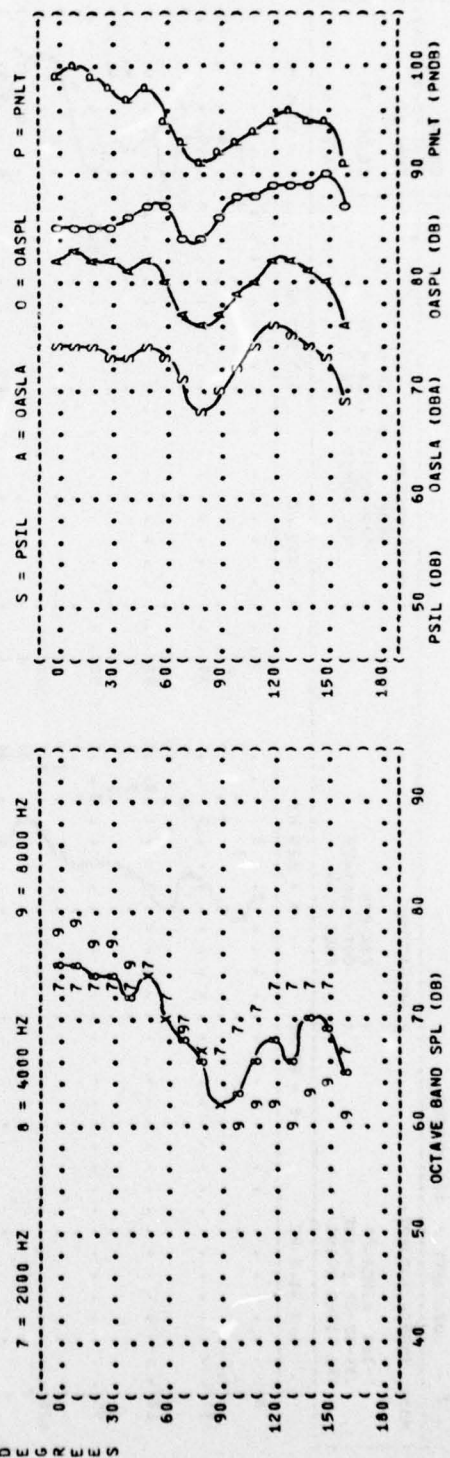
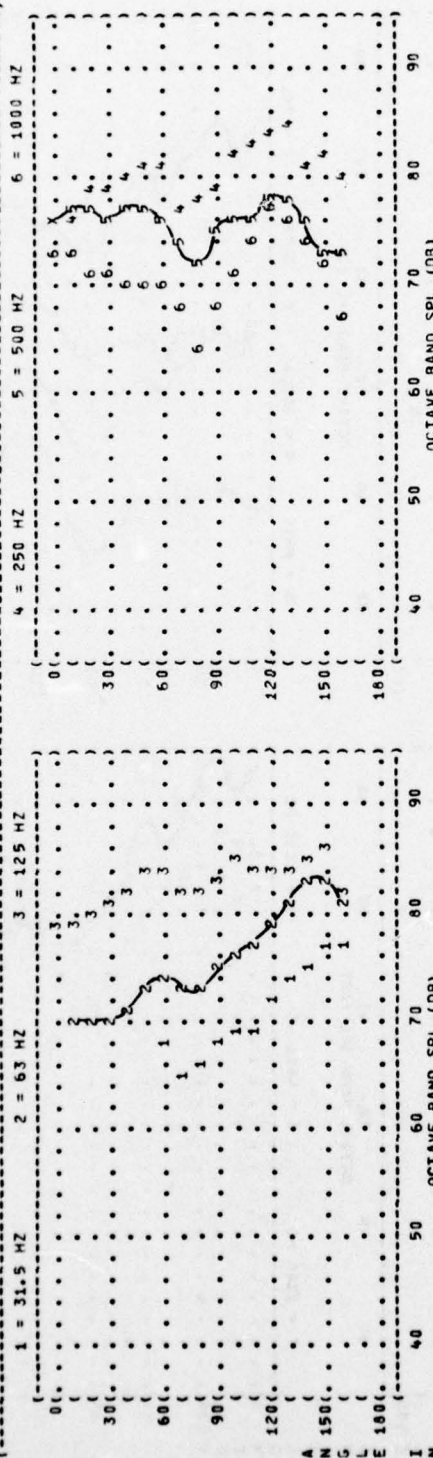
OMEGA 1.4

TEST 75-082-056

RUN 01

20 OCT 75

PAGE 5





( FIGURE NORMALIZED FARFIELD NOISE LEVELS  
 ( 3 DISTANCE = 100 METERS  
 ( NOISE SOURCE/SUBJECT 1  
 ( T-38A AIRCRAFT  
 ( J85-GE-5A ENGINE  
 ( FAR FIELD NOISE  
 ( OPERATION:  
 ( TRIM CHECK  
 ( 942 RPM  
 ( BOTH ENGINES  
 ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-056  
 ( RUN 02  
 ( 20 OCT 75  
 ( PAGE 6

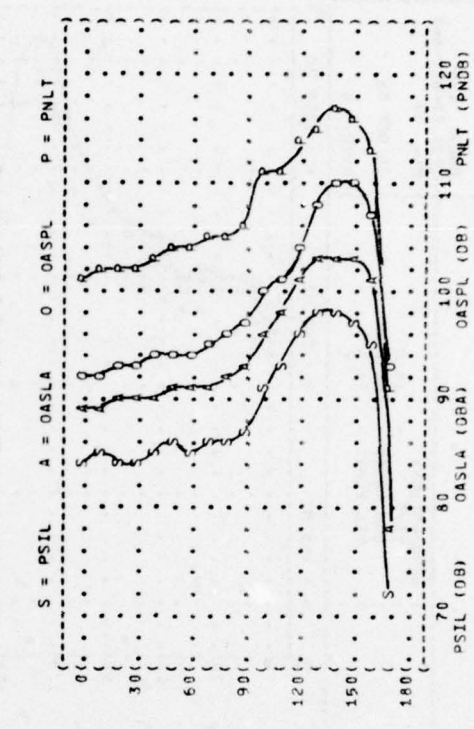
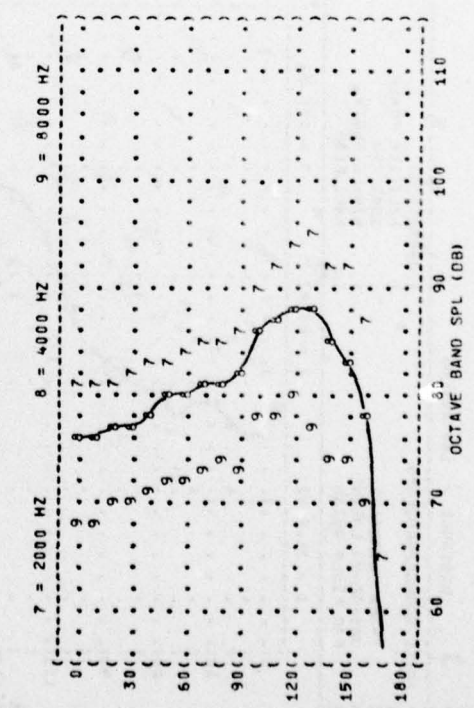
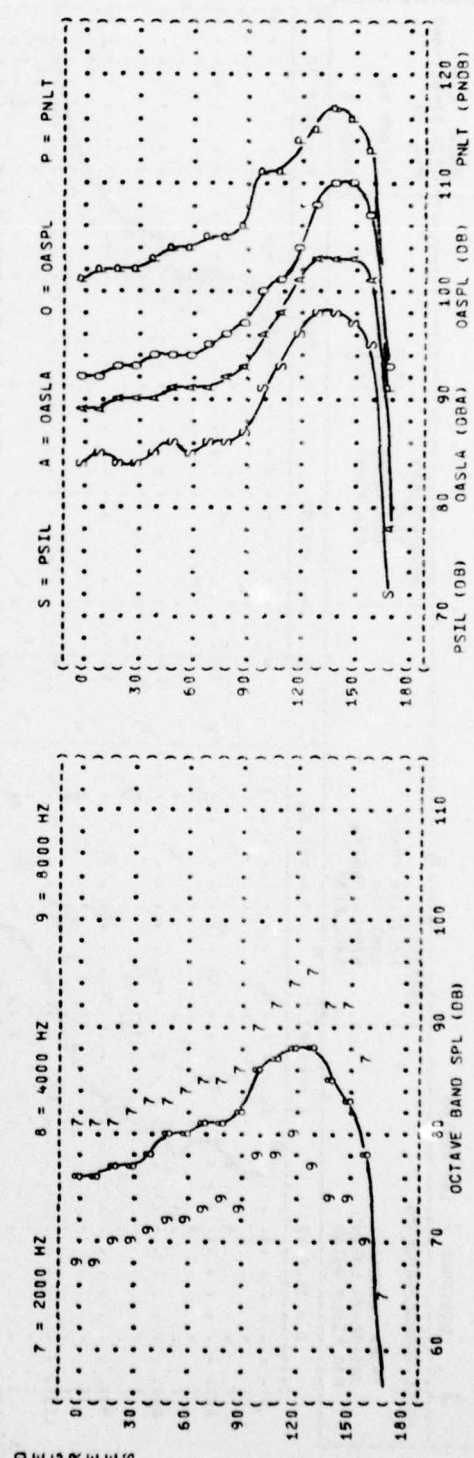
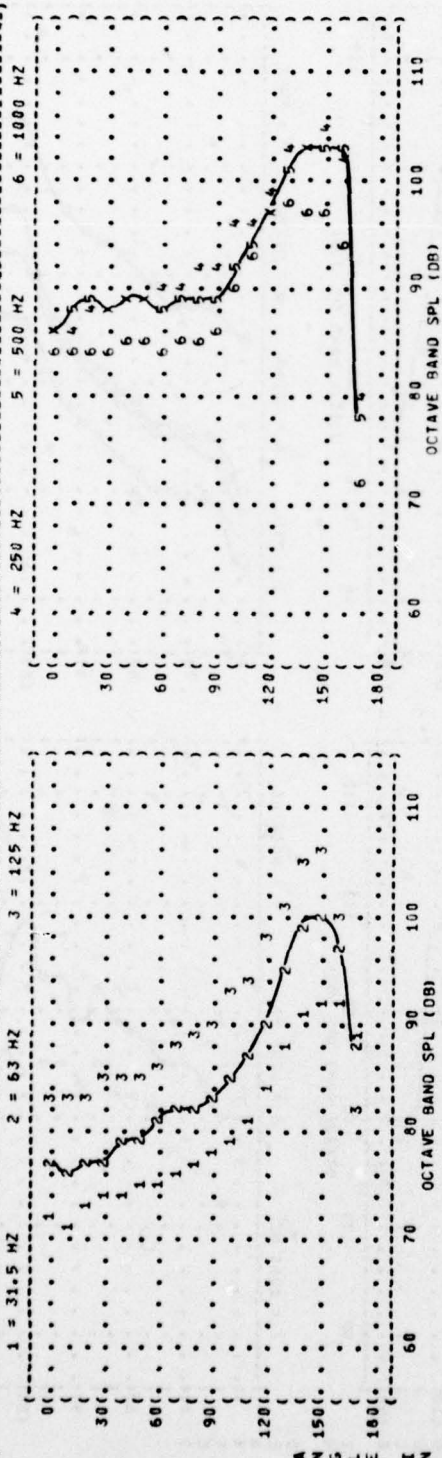


FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS

3 DISTANCE = 100 METERS

NOISE SOURCE/SUBJECT:

T-38A AIRCRAFT

J85-GE-5A ENGINE

FAR FIELD NOISE

OPERATION:

MILITARY POWER

100% RPM

SINGLE ENGINE

FREE FLOW

METEOROLOGY:

TEMP = 15 C

BAR PRESS = .760 M HG

REL HUMID = 70 %

PAGE 5

IDENTIFICATION:

OMEGA 1.4

TEST 75-002-047

RUN 03

20 OCT 75

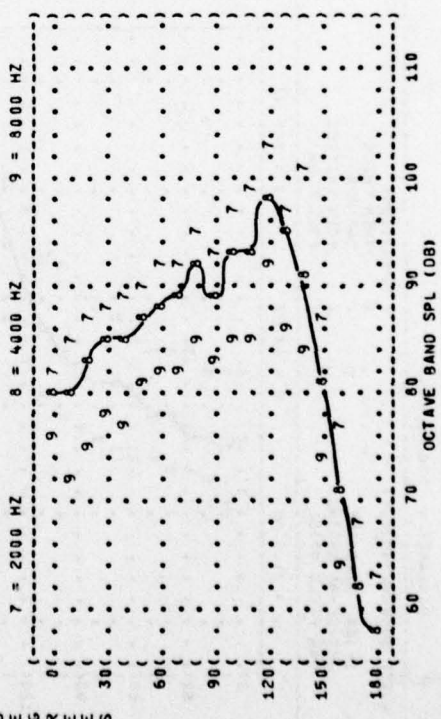
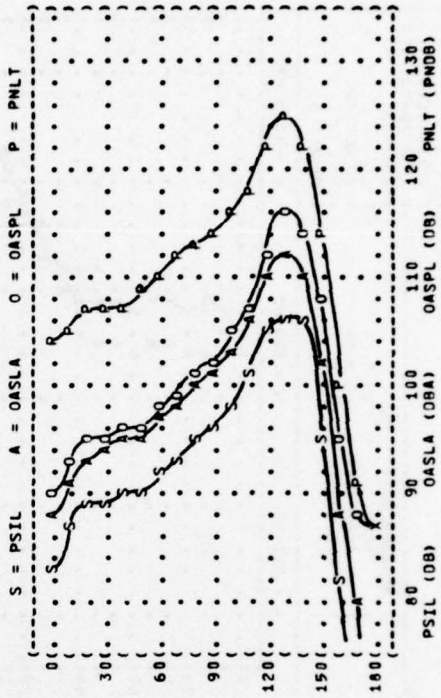
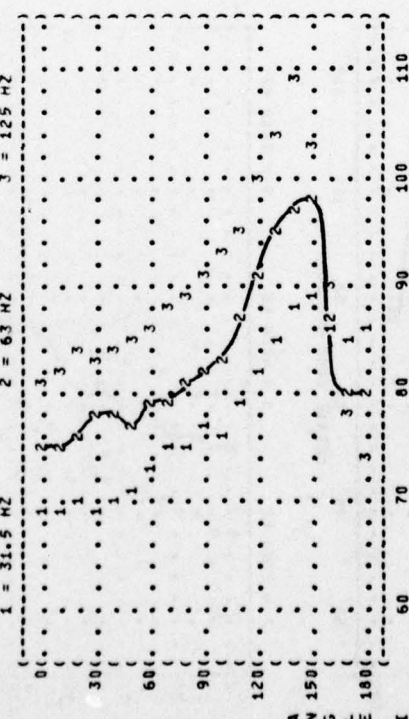
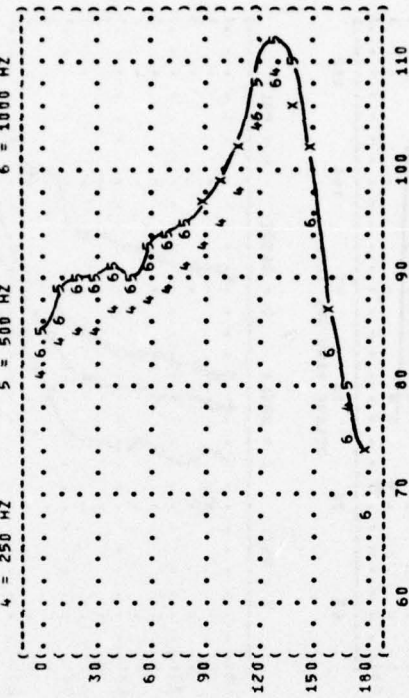
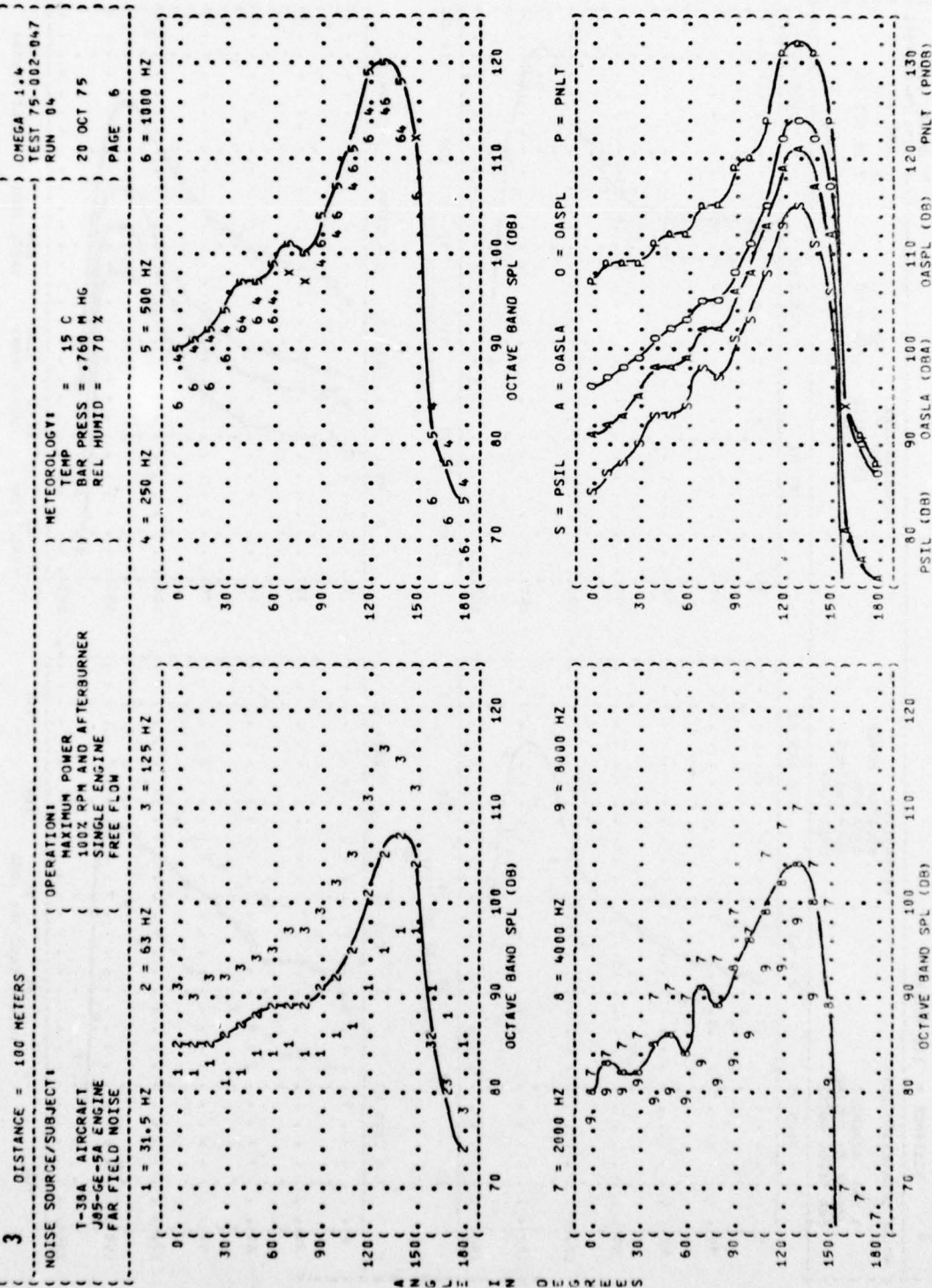
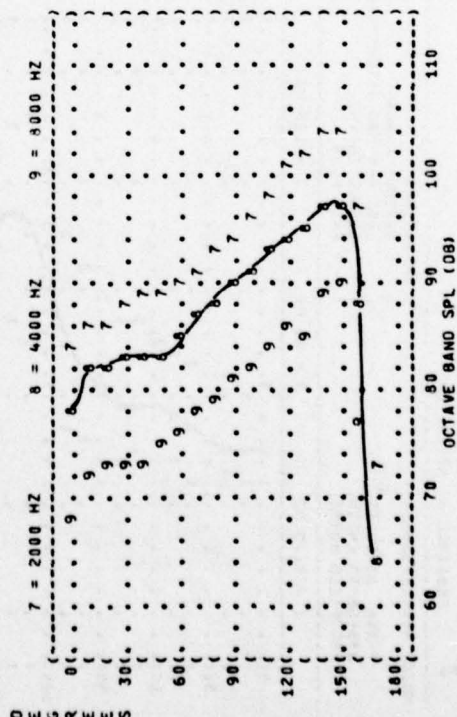
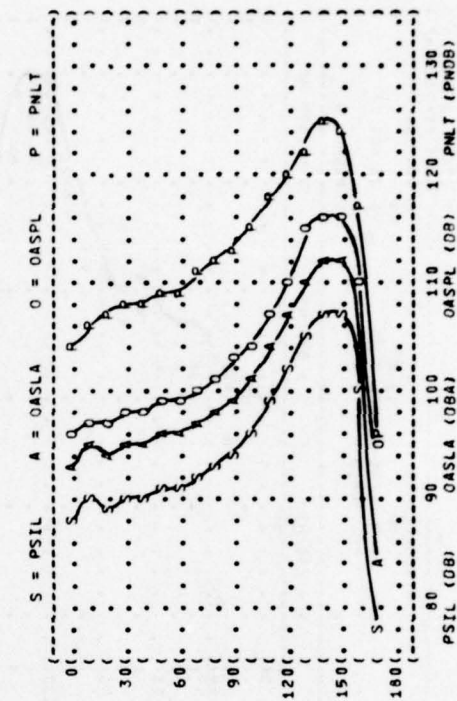
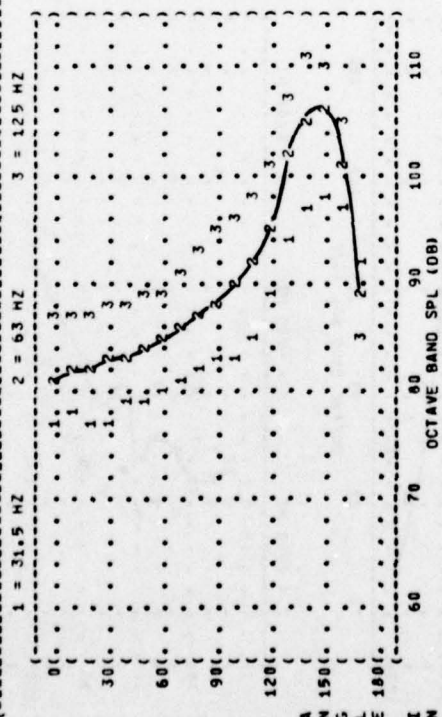
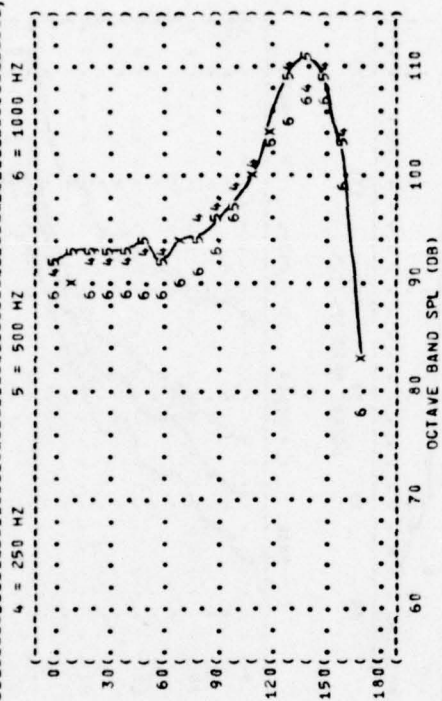


FIGURE 1 NORMALIZED FARFIELD NOISE LEVELS

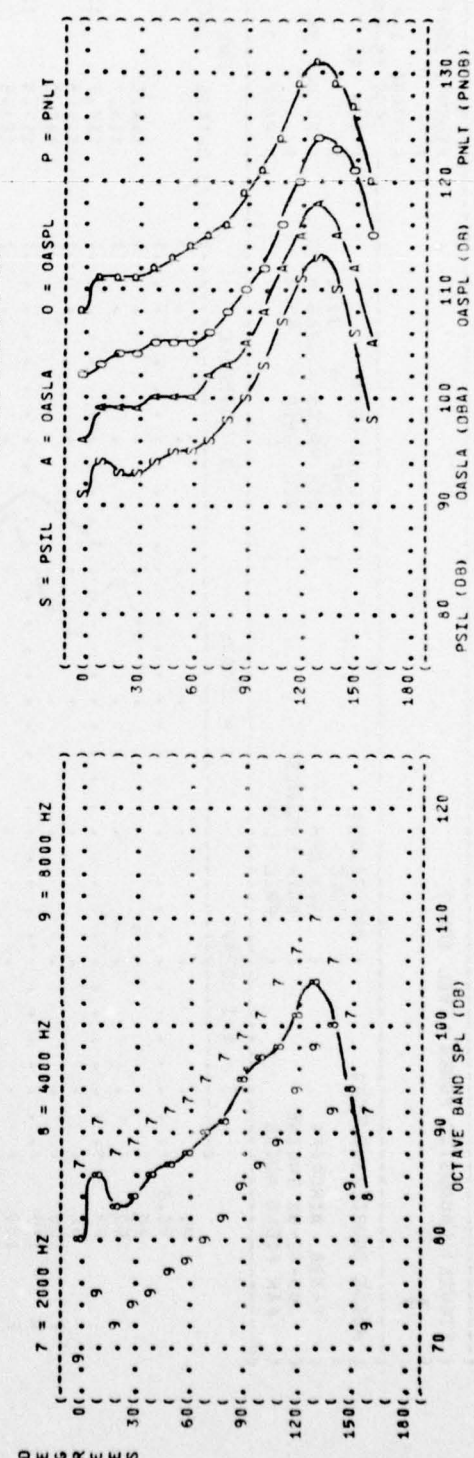
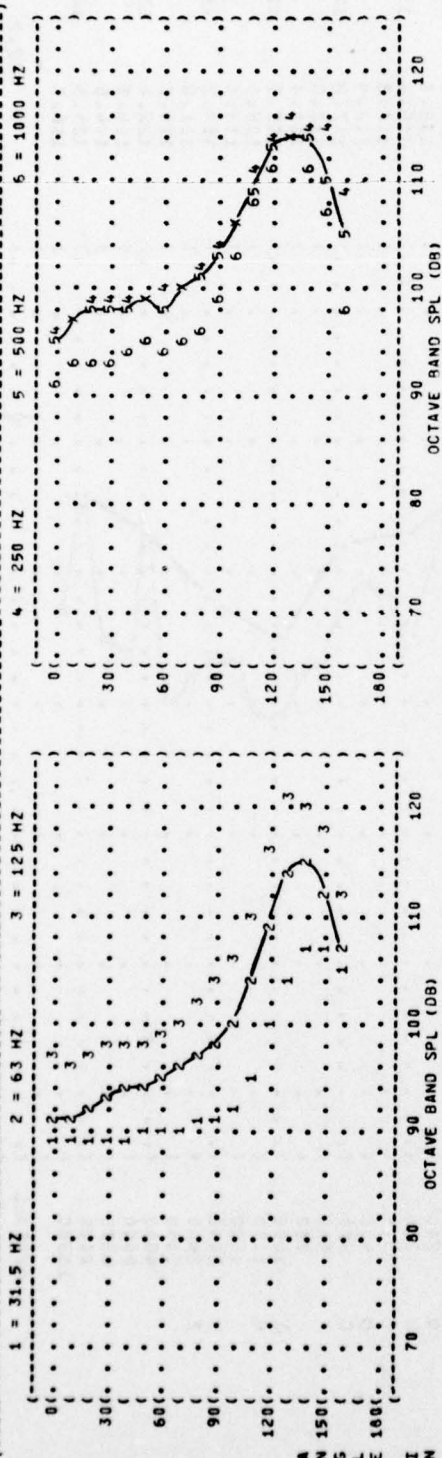




( FIGURE: NORMALIZED FARFIELD NOISE LEVELS  
 ( 3 DISTANCE = 100 METERS  
 ( NOISE SOURCE/SUBJECT:  
 ( T-39A AIRCRAFT  
 ( J85-GE-5A ENGINE  
 ( FAR FIELD NOISE  
 ( ) IDENTIFICATION:  
 ( ) OMEGA 1.4  
 ( ) TEST 75-002-056  
 ( ) RUN 03  
 ( ) METEOROLOGY:  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( ) 20 OCT 75  
 ( ) PAGE 6



( FIGURE: NORMALIZED FARFIELD NOISE LEVELS  
 ( 3 DISTANCE = 100 METERS  
 ( NOISE SOURCE/SUBJECT:  
 ( T-38A AIRCRAFT  
 ( J85-GE-5A ENGINE  
 ( FAR FIELD NOISE  
 ( ) METEOROLOGY:  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( ) PAGE 5  
 ( ) IDENTIFICATION:  
 ( ) OMEGA 1.4  
 ( ) TEST 75-002-056  
 ( ) RUN 04  
 ( ) 20 OCT 75  
 ( )



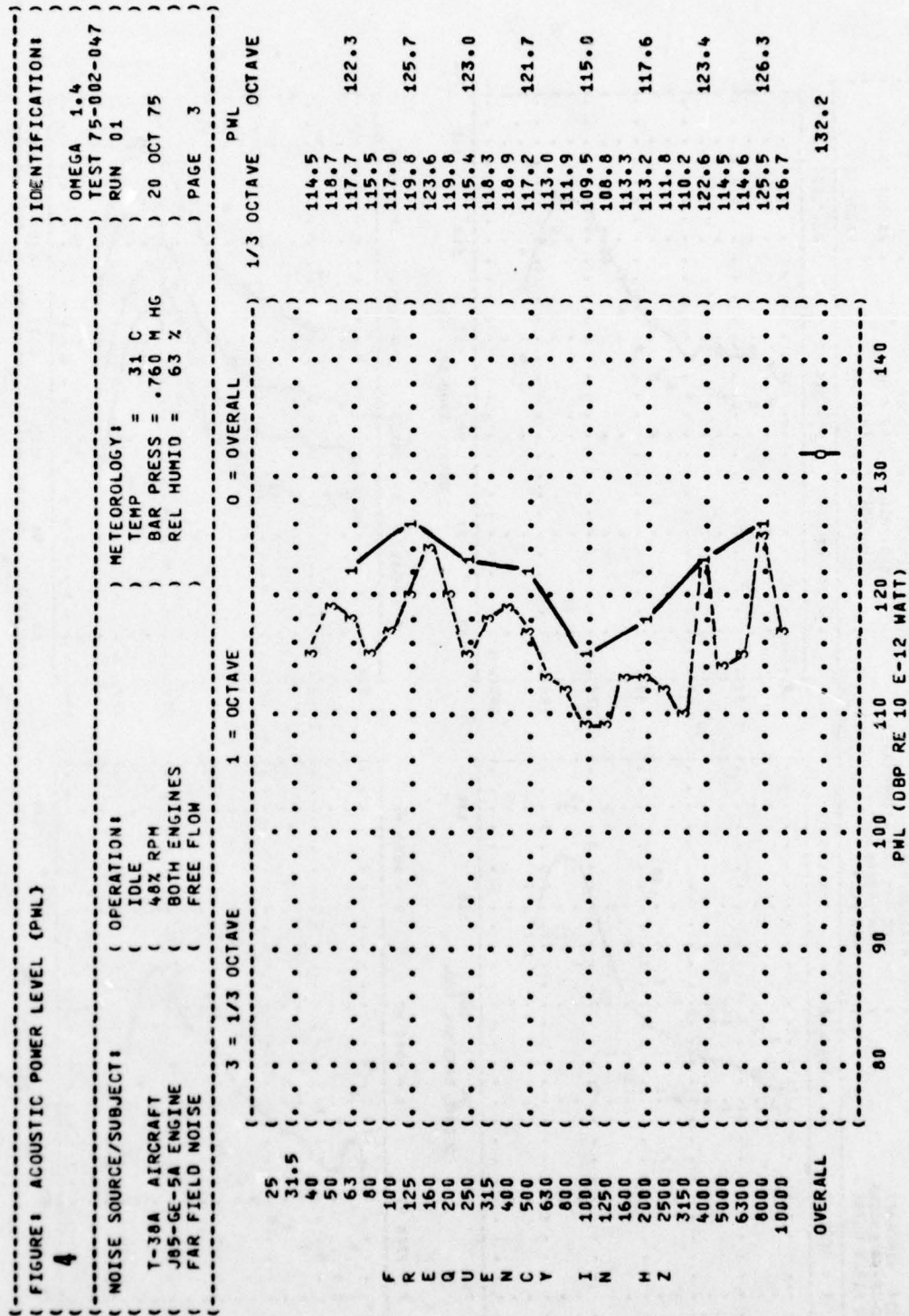
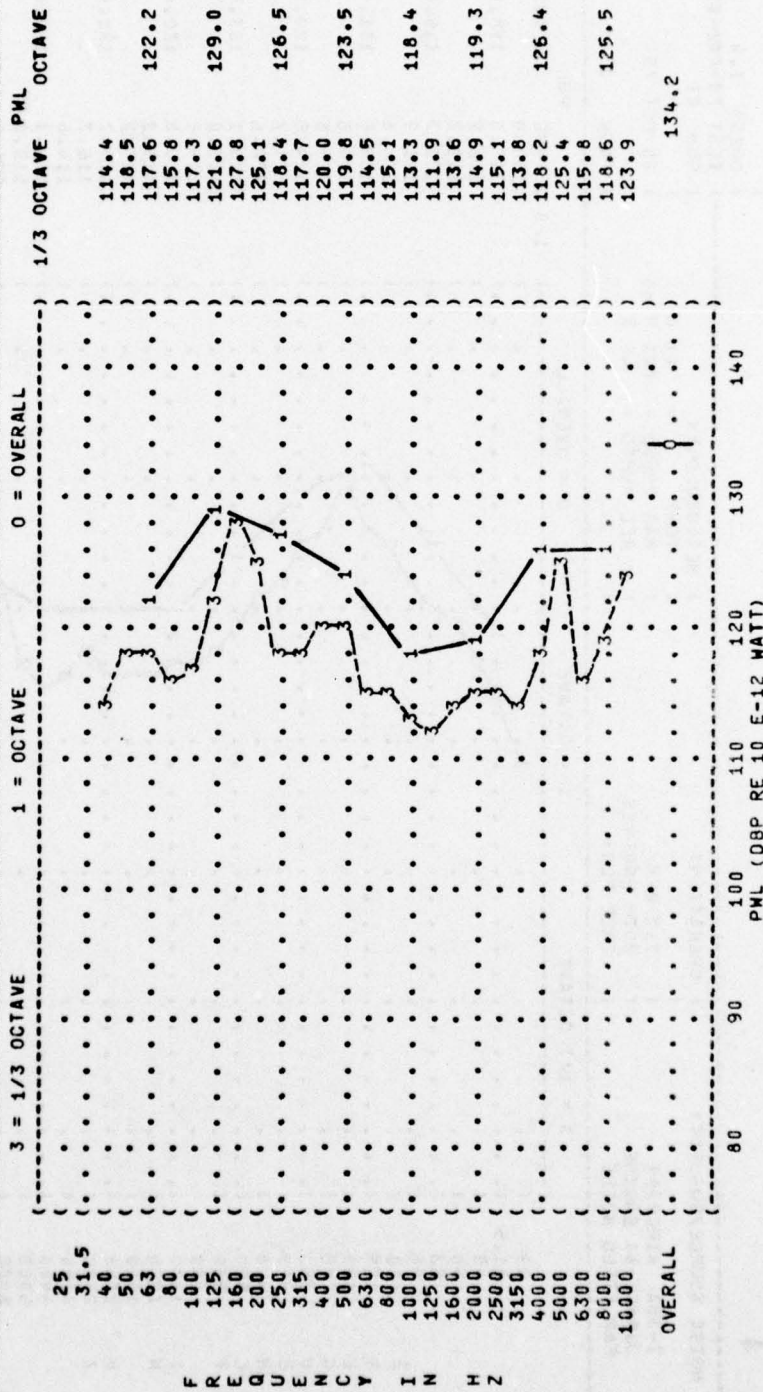




FIGURE: ACOUSTIC POWER LEVEL (PWL)

4

NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: ) IDENTIFICATION: )  
 ( ( 70% RPM ) TEMP = 31 C ) OMEGA 1.4  
 ( T-38A AIRCRAFT ) BAR PRESS = .760 M HG ) TEST 75-002-047  
 ( J85-GE-5A ENGINE ) REL HUMID = 63 % ) RUN 02  
 ( FAR FIELD NOISE ) ) 20 OCT 75 )  
 ( ) ) PAGE 3 )

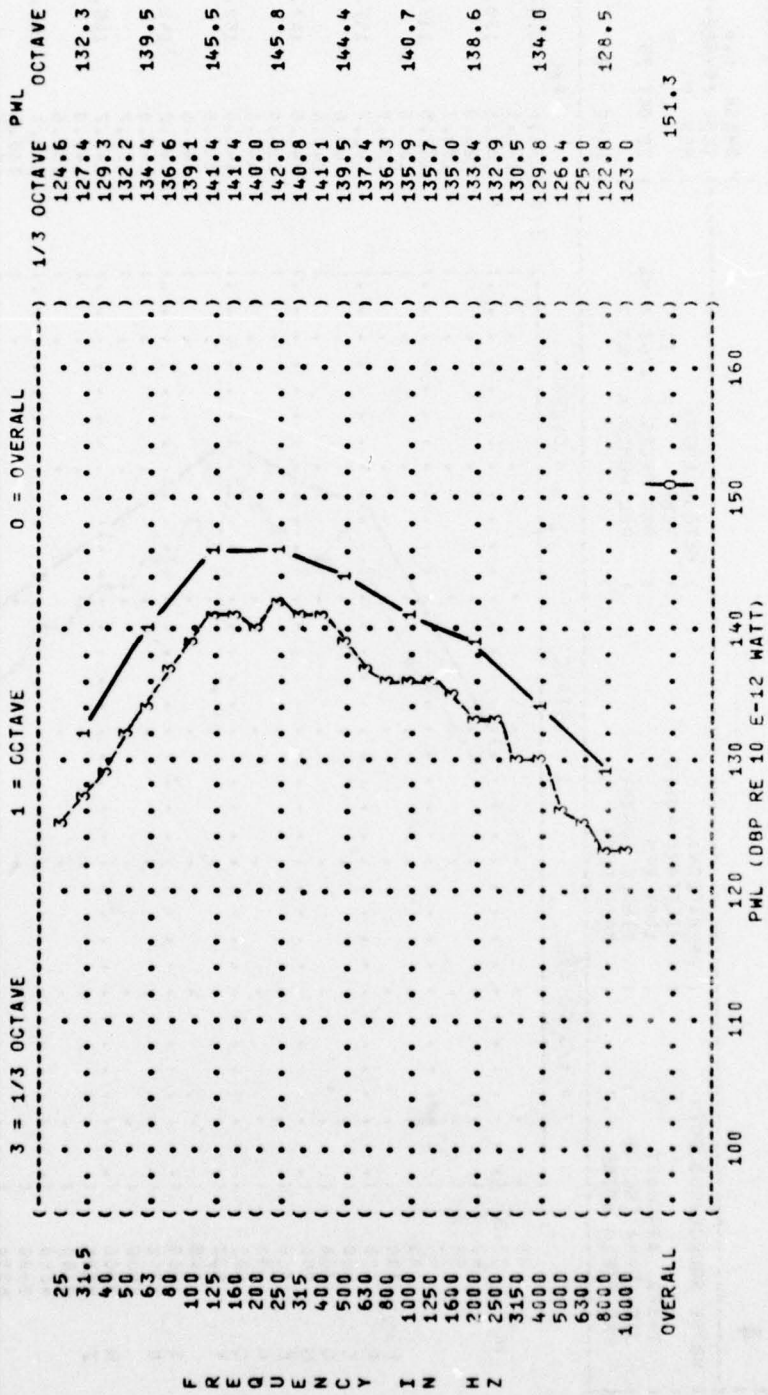




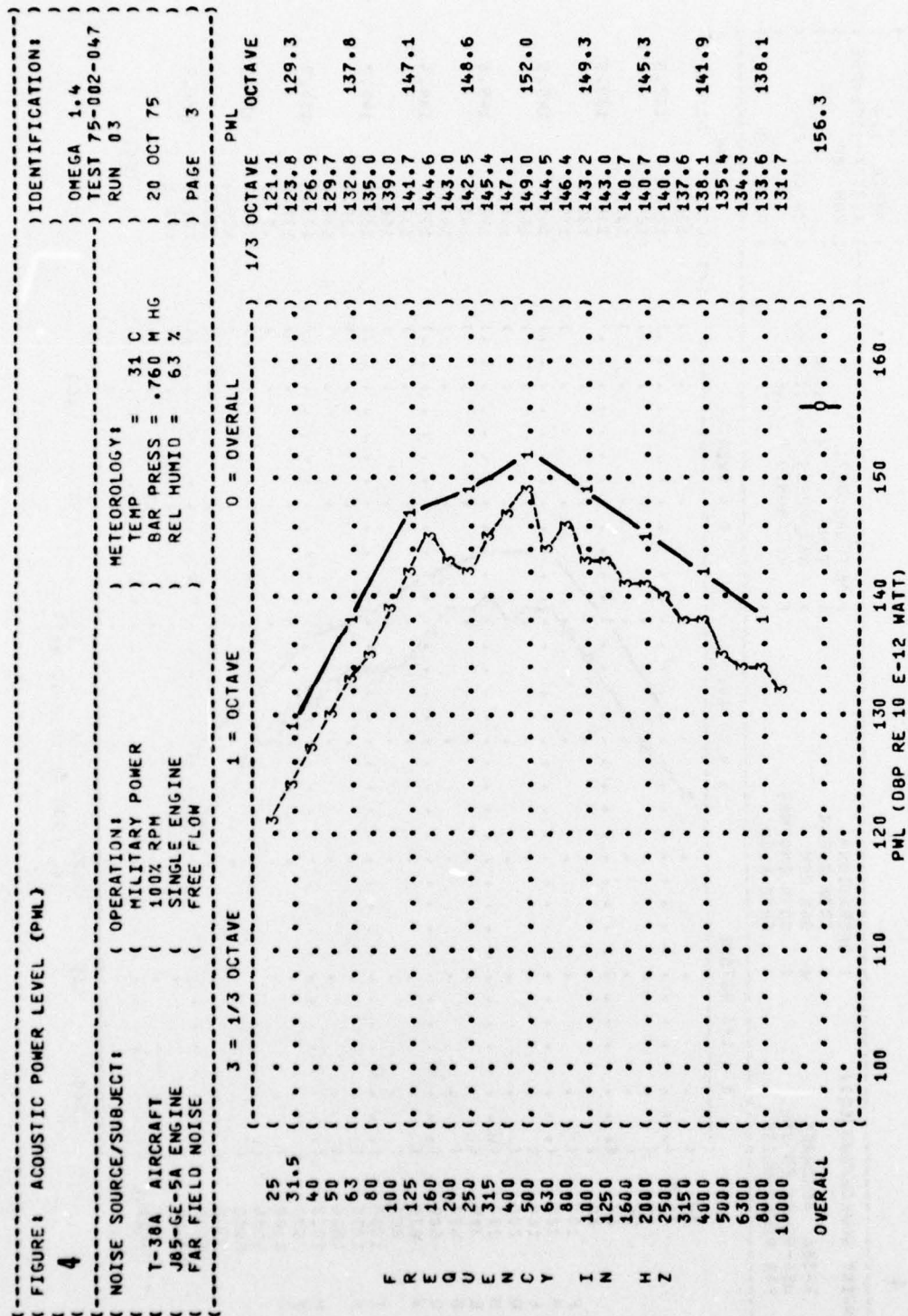
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( ) FIGURE: ACOUSTIC POWER LEVEL (PWL)
( ) 4
( ) IDENTIFICATION:
( ) OMEGA 1.4
( ) TEST 75-002-056
( ) RUN 02
( ) NOISE SOURCE/SUBJECT:
( ) T-30A AIRCRAFT
( ) J85-GE-5A ENGINE
( ) FAR FIELD NOISE
( ) OPERATION:
( ) TRIM CHECK
( ) 94% RPM
( ) BOTH ENGINES
( ) FREE FLOW
( ) METEOROLOGY:
( ) TEMP = 11 C
( ) BAR PRESS = .701 M HG
( ) REL HUMID = 46 %
( ) 20 OCT 75
( ) PAGE 3
( )

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| TABLE: DIRECTIVITY INDEX (DB) |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     | IDENTIFICATION:       |  |
|-------------------------------|----|----|----|----|----|----|----|----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----------------------|--|
| 6                             |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     | OMEGA 1.4             |  |
| NOISE SOURCE/SUBJECT:         |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     | TEST 75-002-047       |  |
| ( OPERATION: )                |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     | RUN 01                |  |
| ( IDLE )                      |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |                       |  |
| ( 48X RPM )                   |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     | TEMP = 31 C           |  |
| ( BOTH ENGINES )              |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     | BAR PRESS = .760 M HG |  |
| ( FREE FLOW )                 |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     | REL HUMID = 63 %      |  |
| FREQ (HZ)                     | 0  | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80  | 90  | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180                   |  |
| 1/3 OCTAVE                    |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |                       |  |
| 25                            | -3 | -3 | -2 | -4 | -2 | 0  | -0 | 1  | -3  | 0   | 1   | 1   | -2  | 2   | 2   | -0  | -0  | -3  | 1                     |  |
| 31.5                          | -3 | -3 | -4 | -1 | -0 | -1 | -1 | -1 | -1  | 1   | 1   | 1   | -2  | 1   | 2   | 1   | -1  | -5  | -2                    |  |
| 40                            | -4 | -5 | -3 | -3 | -0 | -1 | -2 | -1 | -0  | -0  | 1   | 1   | 0   | 2   | 3   | 1   | -4  | -4  | -2                    |  |
| 50                            | -3 | -3 | -2 | -2 | -2 | -2 | -0 | -1 | -1  | -1  | 1   | -0  | 2   | 1   | 3   | 1   | -4  | -5  | -6                    |  |
| 63                            | -3 | -4 | -2 | -2 | -5 | -2 | -2 | -2 | -2  | -1  | 0   | 1   | 0   | 3   | 5   | 2   | -10 | -13 | -17                   |  |
| 80                            | -3 | -3 | -1 | -3 | -3 | -3 | -3 | -1 | -1  | 0   | 1   | 0   | -1  | 1   | 2   | -0  | -13 |     |                       |  |
| 100                           | -5 | -5 | -2 | -2 | -2 | -3 | 0  | -0 | -0  | 2   | 2   | -0  | 1   | 0   | 2   | 0   |     |     |                       |  |
| 125                           | -6 | -4 | -2 | -4 | -2 | -2 | -1 | -0 | -1  | 1   | 2   | 1   | 3   | 2   | -0  | 2   |     |     |                       |  |
| 160                           | -6 | -3 | -5 | -4 | 0  | -1 | -1 | -1 | -0  | 1   | 1   | 1   | 2   | 2   | 1   | -1  | -11 | -18 | -21                   |  |
| 200                           | -8 | -2 | -5 | -2 | -0 | -4 | -4 | -2 | -1  | 1   | 1   | 3   | 2   | 2   | 1   | -1  | -6  | -21 |                       |  |
| 315                           | -5 | -3 | -2 | -3 | -2 | -6 | -4 | -4 | -3  | 1   | 2   | 3   | 4   | 2   | 1   | -5  | -12 |     |                       |  |
| 400                           | -5 | -3 | -2 | -3 | -4 | -7 | -5 | -4 | -5  | -2  | 2   | 2   | 5   | 4   | -3  | -4  | -10 |     |                       |  |
| 500                           | -5 | -1 | -4 | -2 | -2 | -3 | -2 | -4 | -5  | -2  | 2   | 2   | 6   | 3   | -0  | -1  | -7  | -23 | -18                   |  |
| 630                           | -1 | -1 | -2 | -4 | -1 | -2 | -3 | -4 | -5  | -3  | 0   | 2   | 5   | 3   | -1  | -2  | -8  | -22 | -18                   |  |
| 800                           | 1  | -0 | -1 | 2  | -2 | 1  | 1  | -2 | -5  | -5  | -2  | 1   | 4   | 2   | 1   | 1   | -7  | -19 | -15                   |  |
| 1000                          | 4  | 2  | 3  | 2  | 2  | 2  | 0  | -4 | -5  | -7  | -5  | -2  | 1   | 3   | -1  | 4   | -3  | -14 | -12                   |  |
| 1250                          | 3  | 1  | 4  | 4  | 5  | 2  | -1 | -5 | -8  | -8  | -8  | -3  | 0   | 1   | 0   | 3   | -4  | -14 | -13                   |  |
| 1600                          | 0  | 1  | 3  | 1  | 3  | -1 | -6 | -7 | -10 | -10 | -9  | -3  | 1   | 4   | 6   | -2  | -12 | -10 |                       |  |
| 2000                          | 2  | 3  | 4  | 1  | 2  | 1  | -2 | -4 | -9  | -9  | -9  | -3  | 1   | 3   | 5   | 5   | -2  | -13 | -13                   |  |
| 3150                          | 8  | 9  | 7  | 5  | 4  | -5 | 0  | -1 | -6  | -10 | -11 | -5  | -9  | -3  | -2  | 5   | -2  | -12 | -16                   |  |
| 4000                          | 3  | 4  | 4  | 5  | 4  | -1 | 2  | 0  | -6  | -9  | -10 | -5  | -3  | 1   | -0  | 1   | -4  | -14 | -15                   |  |
| 5000                          | 3  | 5  | 6  | 6  | 5  | 2  | 2  | -0 | -8  | -8  | -10 | -4  | -4  | 1   | -1  | -1  | -5  | -15 | -15                   |  |
| 6300                          | 5  | 5  | 6  | 6  | 6  | 1  | 1  | -2 | -8  | -9  | -10 | -5  | -9  | -2  | -6  | -4  | -8  | -18 | -18                   |  |
| 8000                          | 3  | 3  | 6  | 7  | 6  | 6  | 1  | 1  | -7  | -9  | -9  | -6  | -6  | -3  | -5  | -3  | -8  | -18 | -17                   |  |
| 10000                         | 3  | 3  | 6  | 7  | 6  | 6  | 0  | 2  | -7  | -9  | -9  | -6  | -6  | -3  | -5  | -3  | -8  | -18 | -17                   |  |
| OCTAVE                        |    |    |    |    |    |    |    |    |     |     |     |     |     |     |     |     |     |     |                       |  |
| 31.5                          | -3 | -3 | -3 | -2 | -0 | -1 | -1 | -1 | -1  | 0   | 1   | 1   | 0   | 2   | 3   | 1   | -2  | -2  |                       |  |
| 63                            | -4 | -3 | -1 | -2 | -2 | -2 | -1 | -0 | -1  | 1   | 1   | 1   | -1  | 2   | 3   | 0   | -10 | -2  |                       |  |
| 125                           | -5 | -4 | -3 | -3 | -1 | -2 | -0 | -0 | -0  | 2   | 2   | 0   | 2   | 1   | 0   | 0   | -8  | -20 |                       |  |
| 250                           | -6 | -3 | -3 | -2 | -1 | -5 | -4 | -2 | -2  | 1   | 2   | 3   | 5   | 3   | -1  | -1  | -7  | -21 | -17                   |  |
| 500                           | -2 | -1 | -2 | -1 | -1 | -1 | -2 | -4 | -4  | -3  | -1  | 2   | 5   | 3   | 2   | 4   | -3  | -13 | -12                   |  |
| 1000                          | 3  | 1  | 3  | 3  | 4  | 2  | -0 | -5 | -7  | -8  | -7  | -3  | -6  | -2  | -2  | 5   | -3  | -12 | -15                   |  |
| 2000                          | 8  | 8  | 7  | 5  | 4  | -4 | 1  | -1 | -8  | -10 | -11 | -5  | -4  | -1  | -1  | -1  | -4  | -18 | -18                   |  |
| 4000                          | 5  | 5  | 6  | 7  | 6  | 1  | 1  | -2 | -8  | -9  | -10 | -4  | -4  | -2  | -6  | -4  | -8  | -18 | -17                   |  |
| 8000                          | 3  | 3  | 6  | 7  | 6  | 6  | 0  | 2  | -7  | -9  | -9  | -6  | -6  | -3  | -5  | -3  | -8  | -18 | -17                   |  |
| OVERALL                       | 1  | 2  | 2  | 2  | 1  | -1 | -1 | -1 | -2  | -0  | 0   | 0   | 0   | 1   | 1   | 1   | -6  | -14 | -9                    |  |

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| TABLE: DIRECTIVITY INDEX (DB) |    |    |    |    |    |    |    |    |     | IDENTIFICATION:       |     |     |     |     |     |     |     |     |     |
|-------------------------------|----|----|----|----|----|----|----|----|-----|-----------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 6                             |    |    |    |    |    |    |    |    |     | 1.4                   |     |     |     |     |     |     |     |     |     |
| NOISE SOURCE/SUBJECT:         |    |    |    |    |    |    |    |    |     | TEST /5-002-047       |     |     |     |     |     |     |     |     |     |
| T-38A AIRCRAFT                |    |    |    |    |    |    |    |    |     | RUN 02                |     |     |     |     |     |     |     |     |     |
| J85-GE-5A ENGINE              |    |    |    |    |    |    |    |    |     | 20 OCT 75             |     |     |     |     |     |     |     |     |     |
| FAR FIELD NOISE               |    |    |    |    |    |    |    |    |     | PAGE 4                |     |     |     |     |     |     |     |     |     |
| OPERATION:                    |    |    |    |    |    |    |    |    |     | METEOROLOGY:          |     |     |     |     |     |     |     |     |     |
| 70% RPM                       |    |    |    |    |    |    |    |    |     | TEMP = 31 C           |     |     |     |     |     |     |     |     |     |
| BOTH ENGINES                  |    |    |    |    |    |    |    |    |     | BAR PRESS = .760 M HG |     |     |     |     |     |     |     |     |     |
| FREE FLOW                     |    |    |    |    |    |    |    |    |     | REL HUMID = 63 %      |     |     |     |     |     |     |     |     |     |
| FREQ                          |    |    |    |    |    |    |    |    |     | ANGLE (DEGREES)       |     |     |     |     |     |     |     |     |     |
| (HZ)                          | 0  | 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80  | 90                    | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| 1/3 OCTAVE                    |    |    |    |    |    |    |    |    |     |                       |     |     |     |     |     |     |     |     |     |
| 25                            | -2 | -2 | -2 | -2 | -1 | -3 | -1 | -1 | 1   | -0                    | 1   | 1   | 2   | 2   | 1   | 0   | -1  | -2  | -0  |
| 31.5                          | -3 | -5 | -4 | -2 | -3 | -3 | -3 | -1 | -0  | 0                     | 0   | 0   | 0   | 0   | 0   | 1   | 1   | -2  | -5  |
| 40                            | -3 | -5 | -4 | -2 | -3 | -4 | -1 | -1 | -1  | -1                    | -1  | -1  | -1  | -1  | -1  | 1   | 1   | -2  | -3  |
| 50                            | -3 | -5 | -4 | -2 | -3 | -4 | -1 | -1 | -1  | -1                    | -1  | -1  | -1  | -1  | -1  | 1   | 1   | -2  | -3  |
| 63                            | -4 | -6 | -5 | -4 | -4 | -5 | -2 | -2 | -2  | -2                    | -2  | -2  | -2  | -2  | -2  | 1   | 1   | -3  | -4  |
| 80                            | -4 | -6 | -5 | -4 | -4 | -5 | -2 | -2 | -2  | -2                    | -2  | -2  | -2  | -2  | -2  | 1   | 1   | -3  | -4  |
| 100                           | -5 | -7 | -4 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 125                           | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 160                           | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 200                           | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 250                           | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 315                           | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 400                           | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 500                           | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 630                           | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 800                           | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 1000                          | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 1250                          | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 1600                          | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 2000                          | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 2500                          | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 3150                          | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 4000                          | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 5000                          | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 6300                          | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 8000                          | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| 10000                         | -5 | -6 | -3 | -3 | -3 | -4 | -3 | -3 | -3  | -3                    | -3  | -3  | -3  | -3  | -3  | 1   | 1   | -3  | -4  |
| OCTAVE                        |    |    |    |    |    |    |    |    |     |                       |     |     |     |     |     |     |     |     |     |
| 31.5                          | -3 | -5 | -4 | -2 | -1 | -4 | -2 | -1 | -1  | -1                    | -1  | -1  | -1  | -1  | -1  | 1   | 1   | -2  | -4  |
| 63                            | -5 | -6 | -3 | -3 | -2 | -4 | -2 | -1 | -1  | -1                    | -1  | -1  | -1  | -1  | -1  | 1   | 1   | -2  | -4  |
| 125                           | -5 | -6 | -3 | -3 | -2 | -4 | -2 | -1 | -1  | -1                    | -1  | -1  | -1  | -1  | -1  | 1   | 1   | -2  | -4  |
| 250                           | -5 | -6 | -3 | -3 | -2 | -4 | -2 | -1 | -1  | -1                    | -1  | -1  | -1  | -1  | -1  | 1   | 1   | -2  | -4  |
| 500                           | -6 | -3 | -3 | -3 | -3 | -7 | -3 | -4 | -2  | -5                    | -2  | -3  | -5  | -2  | -0  | 0   | 0   | -5  | -23 |
| 1000                          | -4 | -3 | -4 | -3 | -3 | -4 | -3 | -4 | -6  | -7                    | -4  | -2  | -6  | -5  | -0  | -3  | -2  | -22 | -24 |
| 2000                          | 2  | 1  | 2  | -1 | 3  | 1  | 0  | -4 | -10 | -9                    | -6  | -9  | -11 | -9  | -0  | 1   | 6   | -7  | -12 |
| 4000                          | 8  | 6  | 8  | 5  | 4  | 0  | 2  | -3 | -5  | -7                    | -9  | -9  | -11 | -9  | -5  | -1  | 3   | -16 | -16 |
| 8000                          | 5  | 6  | 7  | 4  | 4  | 2  | 2  | -3 | -6  | -10                   | -8  | -7  | -9  | -6  | -2  | 0   | 1   | -16 | -17 |
| OVERALL                       | 1  | -0 | 2  | -0 | -0 | -2 | 0  | -1 | -1  | -3                    | -2  | 1   | 2   | 2   | 1   | 1   | -1  | -16 | -13 |



[illegible]



| TABLE: DIRECTIVITY INDEX (DB)                                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| 6  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NOISE SOURCE/SUBJECT:  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ( T-38A AIRCRAFT )   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ( J85-GE-5A ENGINE )   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ( FAR FIELD NOISE )  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OPERATION: ( )   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ( MILITARY POWER )   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ( 100% RPM )   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ( SINGLE ENGINE )  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ( FREE FLOW )  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| METEOROLOGY: ( )   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| TEMP = 31 C  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BAR PRESS = .760 M HG  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| REL HUMID = 63 %   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PAGE 4   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| IDENTIFICATION: ( )  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OMEGA 1.4  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| TEST 75-002-047  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| RUN 03   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 20 OCT 75  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FREQ (HZ)  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0 10 20 30 40 50 60 70 80 90 100 110 120 130 140 150 160 170 180 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1/3 OCTAVE   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 31.5   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 40   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 50   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 63   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 80   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 100  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 125  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 160  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 200  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 250  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 315  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 400  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 500  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 630  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 800  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1000   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1250   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1600   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2000   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2500   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3150   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4000   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5000   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6300   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8000   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10000  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OCTAVE   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 31.5   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 63   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 125  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 250  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 500  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1000   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2000   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4000   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8000   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OVERALL  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |



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|-------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----------------------|-----|-----|
| 6                             |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | OMEGA 1.4             |     |     |
|                               |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | TEST 75-002-047       |     |     |
| NOISE SOURCE/SUBJECT:         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | RUN 04                |     |     |
| ( T-38A AIRCRAFT              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                       |     |     |
| ( J85-GE-5A ENGINE            |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | 20 OCT 75             |     |     |
| ( FAR FIELD NOISE             |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | PAGE 4                |     |     |
|                               |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                       |     |     |
| METEOROLOGY:                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | TEMP = 31 C           |     |     |
|                               |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | BAR PRESS = .760 M HG |     |     |
|                               |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     | REL HUMID = 63 %      |     |     |
|                               |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                       |     |     |
| FREE FLOW                     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                       |     |     |
| FREQ (HZ)                     | 0   | 10  | 20  | 30  | 40  | 50  | 60  | 70  | 80  | 90  | 100 | 110 | 120 | 130 | 140 | 150 | 160                   | 170 | 180 |
| ANGLE (DEGREES)               |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                       |     |     |
| 1/3 OCTAVE                    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                       |     |     |
| 25                            | -7  | -6  | -7  | -7  | -8  | -6  | -4  | -6  | -7  | -5  | -5  | -3  | -2  | 4   | 6   | 7   | 4                     | 2   | 1   |
| 31.5                          | -8  | -8  | -8  | -9  | -7  | -7  | -6  | -6  | -7  | -6  | -5  | -4  | -0  | 5   | 7   | 7   | 2                     | -2  | -5  |
| 40                            | -9  | -9  | -8  | -10 | -9  | -7  | -7  | -6  | -6  | -8  | -4  | -3  | 1   | 5   | 7   | 7   | -2                    | -8  | -14 |
| 50                            | -12 | -10 | -12 | -11 | -9  | -8  | -9  | -8  | -10 | -7  | -6  | -4  | 2   | 5   | 8   | 5   | -8                    | -15 | -22 |
| 63                            | -14 | -14 | -14 | -12 | -11 | -10 | -9  | -10 | -9  | -8  | -7  | -4  | 2   | 6   | 8   | 6   | -12                   | -19 | -26 |
| 80                            | -14 | -15 | -14 | -14 | -14 | -12 | -10 | -10 | -10 | -8  | -7  | -3  | 3   | 6   | 8   | 5   | -17                   | -21 | -25 |
| 100                           | -16 | -17 | -16 | -15 | -16 | -12 | -12 | -11 | -10 | -9  | -8  | -4  | 3   | 8   | 7   | 4   | -21                   | -25 | -28 |
| 125                           | -18 | -19 | -17 | -17 | -16 | -15 | -13 | -12 | -12 | -10 | -6  | -3  | 4   | 8   | 7   | 3   | -24                   | -27 | -30 |
| 160                           | -18 | -17 | -16 | -16 | -15 | -14 | -13 | -10 | -12 | -9  | -6  | -3  | 3   | 7   | 7   | 4   | -24                   | -28 | -31 |
| 200                           | -17 | -17 | -16 | -16 | -15 | -13 | -12 | -9  | -10 | -9  | -6  | -1  | 5   | 6   | 6   | 5   | -23                   | -27 | -31 |
| 250                           | -19 | -18 | -17 | -17 | -15 | -13 | -13 | -10 | -12 | -9  | -6  | -0  | 7   | 4   | 4   | 3   | -25                   | -29 | -33 |
| 315                           | -22 | -21 | -19 | -17 | -15 | -15 | -14 | -13 | -12 | -9  | -6  | -2  | 6   | 8   | 3   | 1   | -26                   | -31 | -35 |
| 400                           | -23 | -22 | -20 | -18 | -16 | -16 | -15 | -14 | -12 | -9  | -7  | -1  | 4   | 8   | 6   | -1  | -31                   | -34 | -38 |
| 500                           | -23 | -22 | -21 | -20 | -16 | -16 | -14 | -12 | -13 | -9  | -6  | -2  | 7   | 7   | 6   | -1  | -33                   | -36 | -39 |
| 630                           | -23 | -23 | -21 | -20 | -16 | -16 | -14 | -12 | -13 | -11 | -6  | -2  | 7   | 7   | 4   | -2  | -32                   | -36 | -39 |
| 800                           | -28 | -25 | -22 | -19 | -17 | -15 | -15 | -13 | -12 | -8  | -6  | 1   | 2   | 9   | 4   | -2  | -34                   | -37 | -40 |
| 1000                          | -21 | -20 | -23 | -20 | -16 | -15 | -14 | -9  | -12 | -7  | -2  | 1   | 6   | 7   | 3   | -1  | -33                   | -36 | -39 |
| 1250                          | -24 | -21 | -20 | -18 | -15 | -13 | -14 | -9  | -9  | -4  | -5  | 2   | 4   | 7   | 2   | -3  | -32                   | -35 | -37 |
| 1600                          | -21 | -20 | -18 | -16 | -13 | -11 | -12 | -10 | -10 | -5  | -5  | 2   | 6   | 8   | 2   | -1  | -33                   | -34 | -36 |
| 2000                          | -20 | -19 | -18 | -17 | -13 | -12 | -13 | -8  | -8  | -2  | -7  | 3   | 5   | 8   | 1   | -3  | -31                   | -33 | -35 |
| 2500                          | -18 | -16 | -15 | -14 | -11 | -10 | -11 | -5  | -7  | -2  | -4  | 4   | 6   | 7   | 2   | -6  | -32                   | -32 | -33 |
| 3150                          | -21 | -18 | -18 | -15 | -12 | -11 | -14 | -6  | -7  | -3  | -1  | 1   | 6   | 7   | 3   | -7  | -32                   | -33 | -34 |
| 4000                          | -14 | -11 | -13 | -13 | -12 | -10 | -12 | -6  | -8  | -3  | -0  | 2   | 4   | 8   | 3   | -8  | -33                   | -33 | -34 |
| 5000                          | -20 | -16 | -17 | -16 | -12 | -10 | -13 | -7  | -9  | -5  | -2  | 3   | 4   | 8   | 3   | -8  | -34                   | -35 | -36 |
| 6300                          | -17 | -14 | -15 | -13 | -11 | -9  | -12 | -6  | -9  | -6  | -4  | 3   | 4   | 8   | 1   | -8  | -31                   | -33 | -35 |
| 8000                          | -9  | -6  | -6  | -6  | -9  | -9  | -9  | -7  | -9  | -8  | -4  | 3   | 3   | 9   | -0  | -10 | -33                   | -35 | -37 |
| 10000                         | -18 | -15 | -16 | -13 | -14 | -11 | -13 | -9  | -11 | -8  | -4  | 2   | 3   | 9   | 0   | -12 | -36                   | -38 | -40 |
| OCTAVE                        |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |                       |     |     |
| 31.5                          | -9  | -9  | -8  | -9  | -8  | -7  | -6  | -6  | -7  | -7  | -4  | -3  | 0   | 5   | 7   | 7   | 1                     | -3  | -6  |
| 63                            | -14 | -13 | -14 | -13 | -12 | -10 | -10 | -10 | -10 | -8  | -7  | -4  | 3   | 6   | 8   | 5   | -13                   | -19 | -25 |
| 125                           | -17 | -18 | -17 | -16 | -15 | -14 | -13 | -11 | -11 | -9  | -6  | -3  | 3   | 8   | 7   | 4   | -23                   | -27 | -30 |
| 250                           | -19 | -19 | -17 | -16 | -15 | -14 | -13 | -11 | -12 | -9  | -7  | -1  | 6   | 7   | 5   | 3   | -25                   | -29 | -33 |
| 500                           | -23 | -22 | -21 | -19 | -16 | -16 | -14 | -12 | -13 | -9  | -6  | -2  | 6   | 7   | 5   | -1  | -32                   | -36 | -39 |
| 1000                          | -24 | -22 | -22 | -19 | -16 | -15 | -15 | -10 | -11 | -7  | -4  | 1   | 4   | 8   | 4   | -2  | -34                   | -36 | -39 |
| 2000                          | -20 | -19 | -17 | -16 | -13 | -11 | -12 | -8  | -8  | -3  | -5  | 2   | 6   | 8   | 2   | -2  | -32                   | -33 | -35 |
| 4000                          | -17 | -14 | -15 | -15 | -12 | -10 | -13 | -6  | -8  | -3  | -1  | 2   | 5   | 7   | 3   | -9  | -33                   | -34 | -36 |
| 8000                          | -12 | -9  | -9  | -9  | -11 | -9  | -11 | -7  | -9  | -7  | -4  | 3   | 4   | 9   | 1   | -9  | -33                   | -34 | -36 |
| OVERALL                       | -20 | -20 | -19 | -17 | -15 | -15 | -14 | -11 | -12 | -8  | -6  | -1  | 6   | 7   | 5   | 1   | -23                   | -26 | -30 |

| TABLE: DIRECTIVITY INDEX (DB) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|-------------------------------|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|--|
| IDENTIFICATION:               |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6                             |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| NOISE SOURCE/SUBJECT:         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OPERATION:                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| T-38A AIRCRAFT                |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| J85-GE-5A ENGINE              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FAR FIELD NOISE               |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| METEOROLOGY:                  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| TEMP = 11 C                   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| BAR PRESS = .701 M HG         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| REL HUMID = 46 %              |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| PAGE 4                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| FREQ (HZ)                     |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ANGLE (DEGREES)               |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1/3 OCTAVE                    |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 25                            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 31.5                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 40                            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 50                            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 63                            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 80                            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 100                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 125                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 160                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 200                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 250                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 315                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 400                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 500                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 630                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 800                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1000                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1250                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1600                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2000                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2500                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 3150                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4000                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 5000                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 6300                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8000                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 10000                         |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OCTAVE                        |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 31.5                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 63                            |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 125                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 250                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 500                           |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1000                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 2000                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 4000                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 8000                          |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| OVERALL                       |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

BEST AVAILABLE COPY

| TABLE: DIRECTIVITY INDEX (DB) |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-------------------------------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 6                             |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| IDENTIFICATION:               |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| OMEGA 1.4                     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| TEST 75-002-056               |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| RUN 04                        |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 20 OCT 75                     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| PAGE 4                        |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| NOISE SOURCE/SUBJECT:         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| ( MAXIMUM POWER               |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| ( 100% RPM AND AFTERBURNER    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| ( BOTH ENGINES                |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| ( FREE FLOW                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| METEOROLOGY:                  |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| TEMP = 11 C                   |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| BAR PRESS = .701 M HG         |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| REL HUMID = 46 %              |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| ANGLE (DEGREES)               |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| FREQ (HZ)                     | 0   | 10  | 20  | 30  | 40  | 50  | 60  | 70  | 80  | 90  | 100 | 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 |
| 1/3 OCTAVE                    |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 25                            | -9  | -10 | -11 | -9  | -10 | -7  | -7  | -10 | -8  | -6  | -8  | -5  | -1  | 5   | 6   | 7   | 6   | 5   |     |
| 31.5                          | -10 | -11 | -12 | -12 | -11 | -9  | -9  | -10 | -8  | -9  | -7  | -4  | -1  | 4   | 8   | 6   | 7   | 4   |     |
| 40                            | -13 | -11 | -12 | -12 | -12 | -12 | -10 | -9  | -10 | -9  | -8  | -5  | 1   | 4   | 8   | 7   | 7   | 4   |     |
| 50                            | -15 | -14 | -13 | -13 | -13 | -12 | -10 | -9  | -9  | -9  | -7  | -4  | 1   | 5   | 9   | 6   | 6   | 0   |     |
| 63                            | -16 | -15 | -14 | -13 | -13 | -14 | -11 | -10 | -9  | -9  | -6  | -4  | 2   | 7   | 8   | 5   | 5   | -0  |     |
| 80                            | -17 | -16 | -16 | -15 | -14 | -14 | -13 | -12 | -11 | -9  | -8  | -3  | 3   | 7   | 7   | 4   | 4   | -0  |     |
| 100                           | -17 | -17 | -17 | -16 | -16 | -16 | -13 | -13 | -12 | -9  | -8  | -3  | 3   | 8   | 5   | 4   | -3  | -1  |     |
| 125                           | -17 | -18 | -18 | -17 | -17 | -16 | -15 | -14 | -12 | -10 | -8  | -4  | 2   | 8   | 7   | 5   | -1  | -2  |     |
| 160                           | -16 | -17 | -16 | -14 | -14 | -14 | -14 | -13 | -10 | -8  | -7  | -4  | 1   | 8   | 6   | 5   | -2  | -2  |     |
| 200                           | -15 | -15 | -13 | -13 | -12 | -13 | -11 | -10 | -8  | -7  | -4  | -0  | 2   | 6   | 6   | 6   | -0  | -0  |     |
| 250                           | -14 | -13 | -11 | -11 | -11 | -11 | -10 | -9  | -8  | -6  | -4  | 2   | 5   | 5   | 4   | 4   | -0  | -0  |     |
| 315                           | -12 | -11 | -10 | -9  | -9  | -9  | -9  | -9  | -8  | -5  | -2  | 0   | 5   | 7   | 3   | 3   | -2  | -2  |     |
| 400                           | -14 | -12 | -11 | -11 | -11 | -10 | -11 | -9  | -7  | -5  | -2  | 0   | 4   | 6   | 5   | 2   | -2  | -4  |     |
| 500                           | -13 | -10 | -10 | -10 | -10 | -8  | -9  | -8  | -8  | -5  | -2  | 1   | 5   | 6   | 6   | 2   | -4  | -6  |     |
| 630                           | -14 | -11 | -9  | -10 | -10 | -9  | -11 | -9  | -8  | -7  | -2  | 1   | 4   | 7   | 5   | 1   | -6  | -9  |     |
| 800                           | -15 | -13 | -12 | -12 | -12 | -11 | -12 | -12 | -11 | -8  | -4  | 1   | 5   | 8   | 4   | 0   | -9  | -8  |     |
| 1000                          | -14 | -12 | -12 | -13 | -11 | -11 | -12 | -10 | -10 | -7  | -3  | 2   | 5   | 7   | 5   | 1   | -8  | -9  |     |
| 1250                          | -16 | -14 | -15 | -15 | -13 | -12 | -13 | -11 | -9  | -5  | -3  | 2   | 5   | 7   | 4   | 4   | -1  | -9  |     |
| 1600                          | -16 | -13 | -15 | -12 | -12 | -12 | -11 | -9  | -7  | -4  | -2  | 2   | 5   | 7   | 4   | 4   | -1  | -10 |     |
| 2000                          | -15 | -11 | -14 | -14 | -11 | -11 | -9  | -8  | -6  | -4  | -1  | 1   | 5   | 7   | 3   | 3   | -2  | -11 |     |
| 2500                          | -16 | -11 | -14 | -13 | -11 | -10 | -8  | -7  | -5  | -3  | -1  | 1   | 4   | 7   | 3   | 3   | -2  | -12 |     |
| 3150                          | -16 | -10 | -14 | -12 | -11 | -10 | -9  | -7  | -6  | -2  | -1  | 1   | 5   | 7   | 3   | 3   | -2  | -13 |     |
| 4000                          | -18 | -10 | -14 | -13 | -11 | -10 | -8  | -7  | -6  | -2  | 0   | 1   | 5   | 7   | 3   | 3   | -3  | -13 |     |
| 5000                          | -18 | -12 | -15 | -13 | -12 | -10 | -10 | -7  | -6  | -2  | 0   | 1   | 5   | 8   | 3   | 3   | -4  | -16 |     |
| 6300                          | -19 | -13 | -16 | -14 | -13 | -11 | -10 | -8  | -7  | -3  | -1  | -0  | 5   | 9   | 3   | 3   | -6  | -19 |     |
| 8000                          | -21 | -15 | -18 | -16 | -15 | -13 | -12 | -10 | -8  | -5  | -3  | -1  | 4   | 9   | 3   | 3   | -5  | -21 |     |
| 10000                         | -23 | -18 | -20 | -19 | -17 | -15 | -13 | -12 | -11 | -7  | -6  | -2  | 3   | 9   | 3   | 3   | -5  | -21 |     |
| OCTAVE                        |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
| 31.5                          | -11 | -11 | -11 | -10 | -11 | -10 | -9  | -9  | -9  | -8  | -7  | -5  | 0   | 4   | 8   | 7   | 5   | -0  |     |
| 63                            | -16 | -16 | -15 | -14 | -13 | -13 | -12 | -11 | -10 | -9  | -7  | -3  | 2   | 7   | 8   | 5   | -0  | -2  |     |
| 125                           | -17 | -17 | -17 | -15 | -16 | -15 | -14 | -13 | -11 | -10 | -7  | -4  | 2   | 8   | 6   | 5   | -2  | -3  |     |
| 250                           | -14 | -13 | -11 | -11 | -10 | -11 | -10 | -9  | -8  | -6  | -3  | 1   | 4   | 6   | 5   | 6   | -1  | -3  |     |
| 500                           | -13 | -11 | -10 | -10 | -10 | -9  | -10 | -9  | -8  | -5  | -2  | 1   | 5   | 7   | 4   | 0   | -9  | -9  |     |
| 1000                          | -15 | -13 | -13 | -12 | -12 | -11 | -13 | -11 | -10 | -7  | -3  | 1   | 5   | 7   | 4   | -1  | -10 | -13 |     |
| 2000                          | -16 | -12 | -14 | -14 | -12 | -11 | -9  | -8  | -6  | -4  | -1  | 2   | 5   | 7   | 3   | -2  | -13 | -13 |     |
| 4000                          | -17 | -10 | -14 | -12 | -11 | -10 | -9  | -7  | -6  | -2  | -0  | 1   | 5   | 7   | 3   | -5  | -5  | -18 |     |
| 8000                          | -20 | -15 | -17 | -16 | -14 | -13 | -11 | -9  | -8  | -4  | -3  | -1  | 4   | 9   | 3   | 3   | -5  | -18 |     |
| OVERALL                       | -15 | -14 | -13 | -13 | -13 | -12 | -12 | -11 | -9  | -7  | -5  | -1  | 3   | 7   | 6   | 4   | -2  | -2  |     |



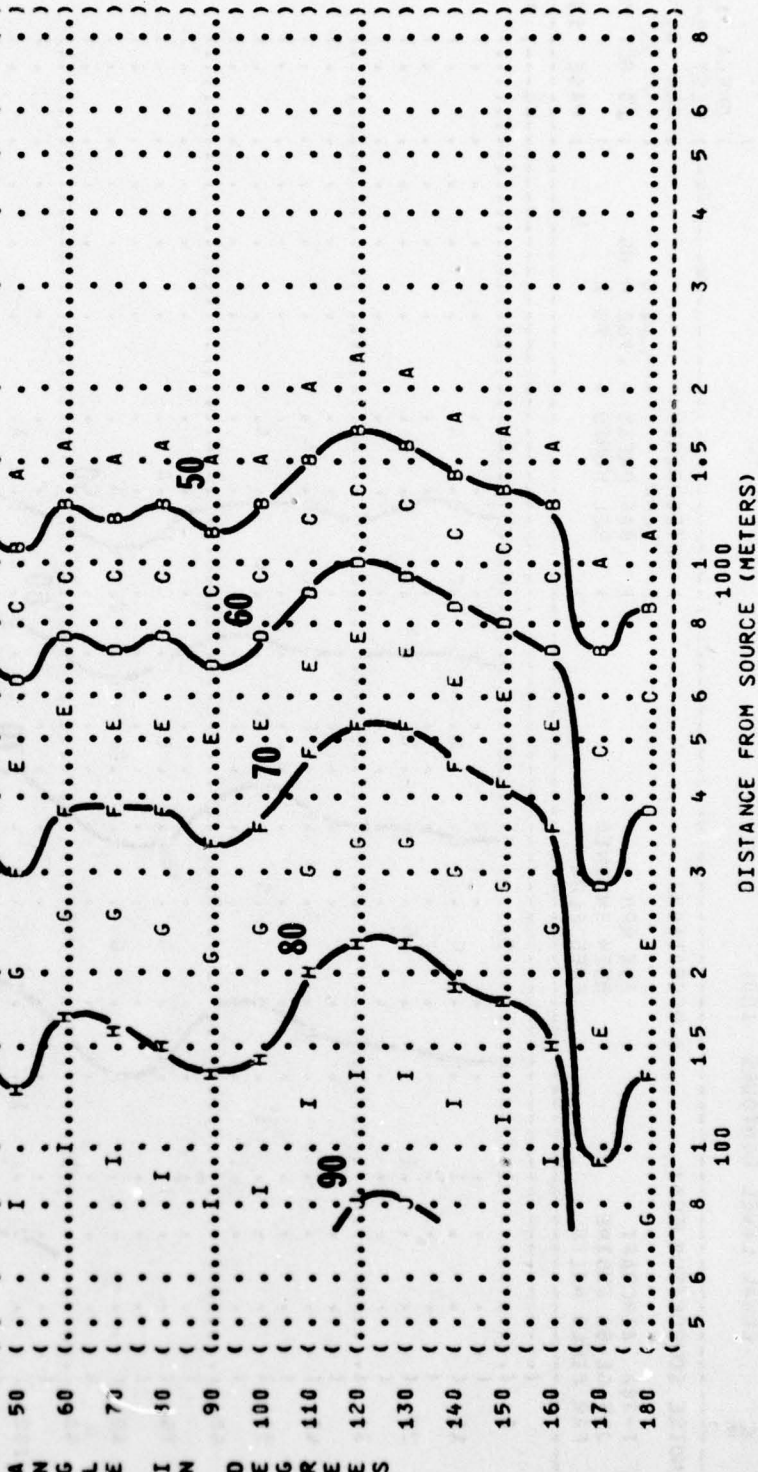


FIGURE 5: OVERALL SOUND PRESSURE LEVEL (OASPL)  
EQUAL LEVEL CONTOURS (DB)

5

NOISE SOURCE/SUBJECT: ( ) OPERATION: ( ) METEOROLOGY: ( )  
 T-38A AIRCRAFT ( ) 70% RPM ( ) TEMP = 15 C  
 J85-GE-5A ENGINE ( ) BOTH ENGINES ( ) BAR PRESS = .760 H HG  
 FAR FIELD NOISE ( ) FREE FLOW ( ) REL HUMID = 70 %  
 ( ) PAGE 13

IDENTIFICATION: ( )  
 OMEGA 1.4  
 TEST 75-002-047  
 RUN 02  
 20 OCT 75  
 POINT DB  
 A 45  
 B 50  
 C 55  
 D 60  
 E 65  
 F 70  
 G 75  
 H 80  
 I 85  
 J 90



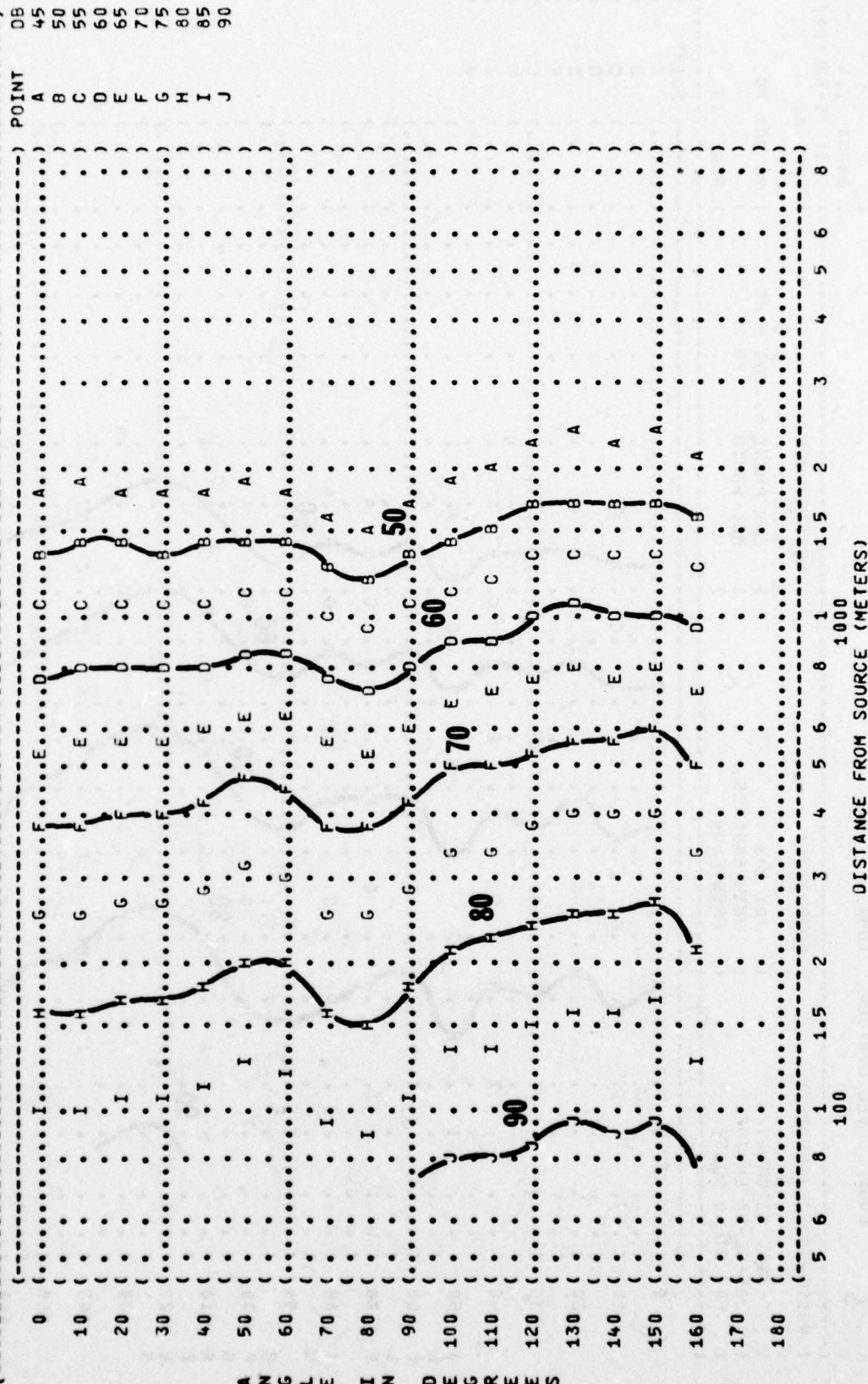
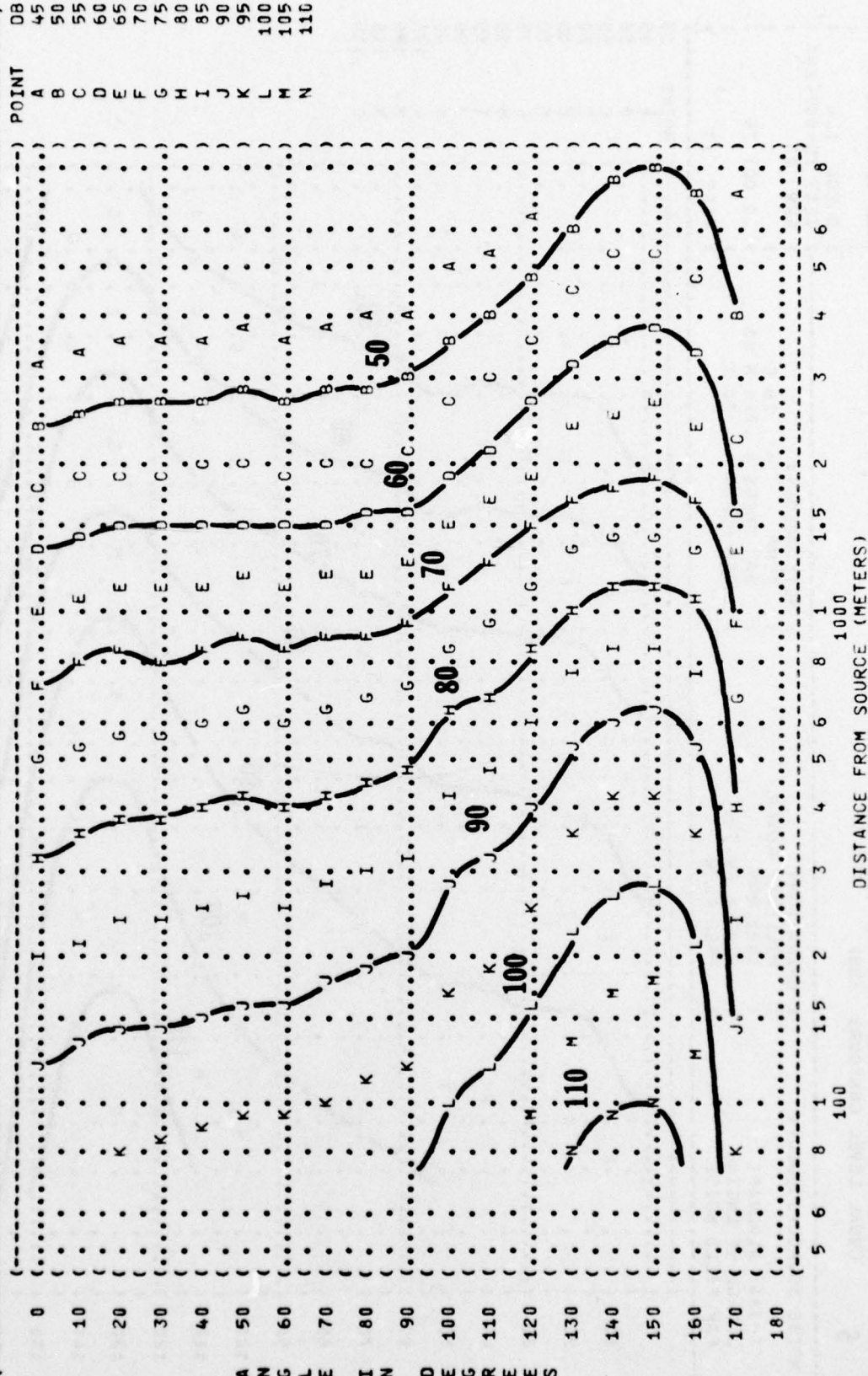
[illegible]



FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL)  
EQUAL LEVEL CONTOURS (DB)

5

IDENTIFICATION: )  
OMEGA 1.4 )  
TEST 75-002-056 )  
RUN 02 )  
METEOROLOGY: )  
TEMP = 15 C )  
BAR PRESS = .760 M HG )  
REL HUMID = 70 % )  
OPERATION: )  
TRIM CHECK )  
94% RPM )  
BOTH ENGINES )  
FREE FLOW )  
NOISE SOURCE/SUBJECT: )  
T-38A AIRCRAFT )  
J85-GE-5A ENGINE )  
FAR FIELD NOISE )



```
(-----)
( FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL) ) IDENTIFICATION: )
(      5          EQUAL LEVEL CONTOURS   (DB) ) )
( ) ) OMEGA 1.4 )
( ) ) TEST 75-002-047 )
(-----)
( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )
( ( OPERATION: ) )
( ( MILITARY POWER ) TEMP = 15 C )
( ( 100% RPM ) BAR PRESS = .760 M HG )
( ( SINGLE ENGINE ) REL HUMID = 70 % )
( ( FREE FLOW ) )
(-----)
( T-38A AIRCRAFT )
( J85-GE-5A ENGINE )
( FAR FIELD NOISE )
(-----)
```

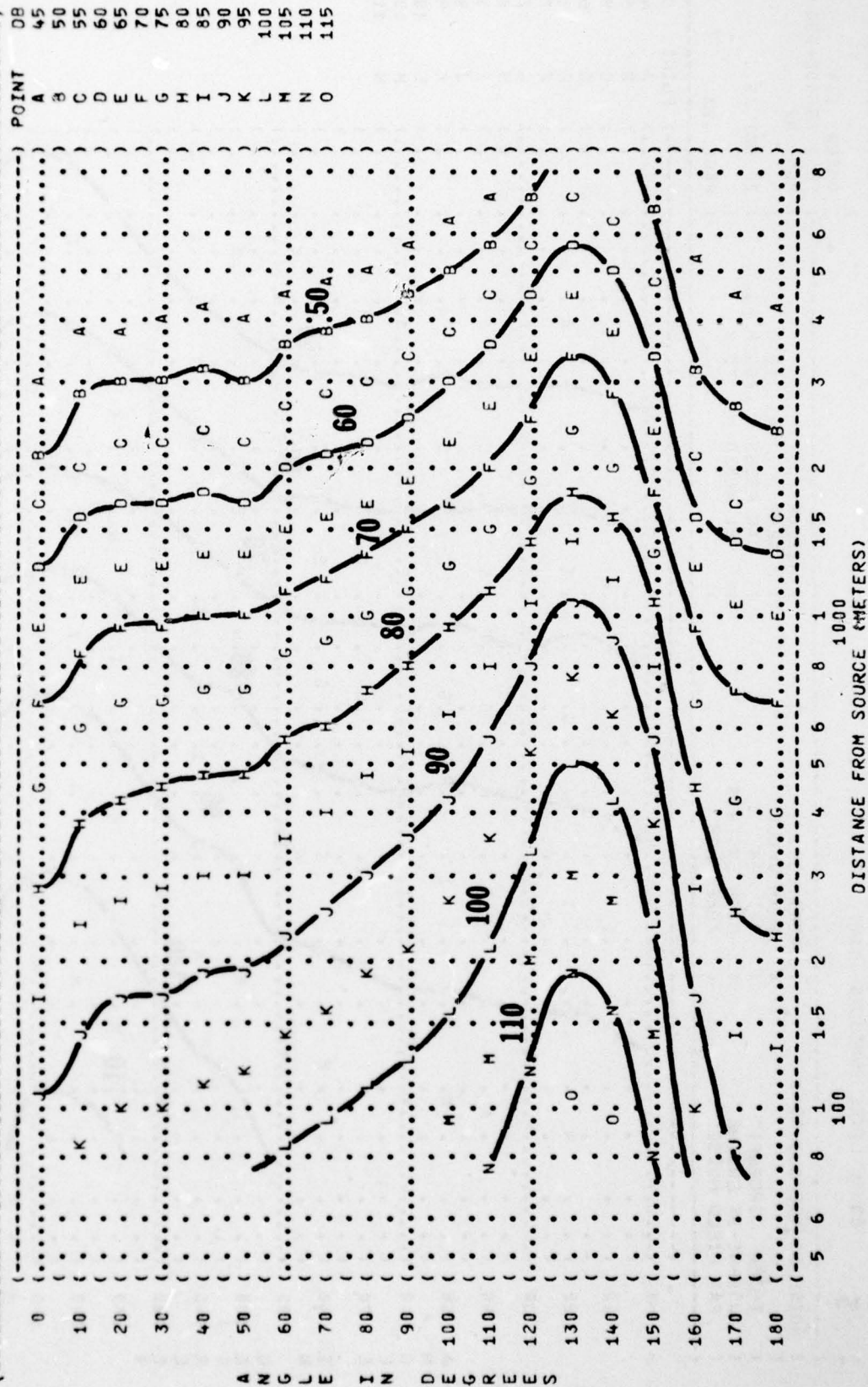


FIGURE 1 OVERALL SOUND PRESSURE LEVEL (OASPL)  
EQUAL LEVEL CONTOURS (DB)

5

NOISE SOURCE/SUBJECT:

T-38A AIRCRAFT  
J85-GE-5A ENGINE  
FAR FIELD NOISE

OPERATION:

MAXIMUM POWER  
100% RPM AND AFTERBURNER  
SINGLE ENGINE  
FREE FLOW

METEOROLOGY:

TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

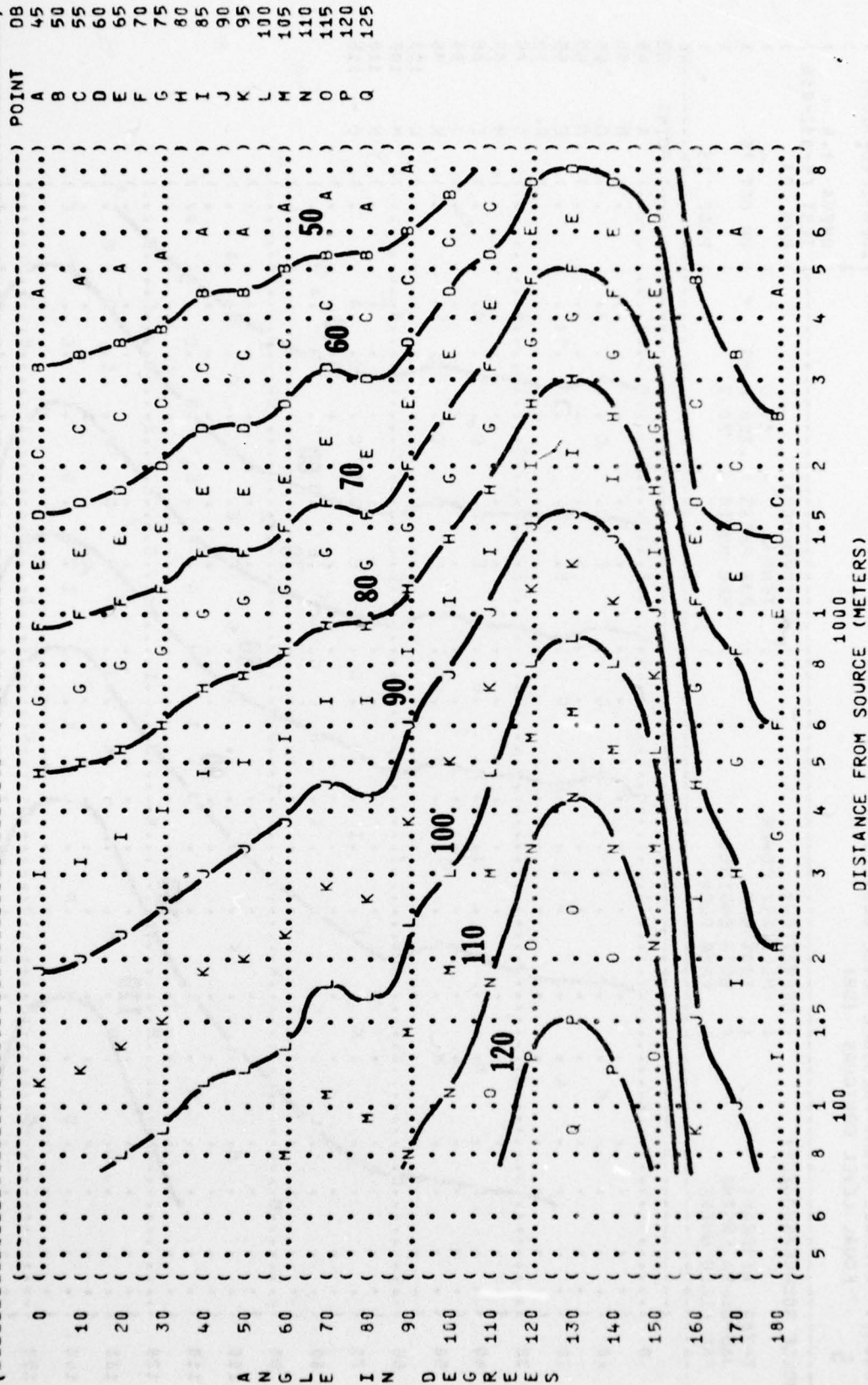
OMEGA 1.4

TEST 75-002-047

RUN 04

20 OCT 75

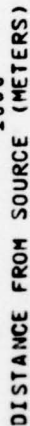
PAGE 13





5

PAGE 13



( FIGURE: OVERALL SOUND PRESSURE LEVEL (OASPL)  
 )  
 ( 5  
 ( EQUAL LEVEL CONTOURS (DB)  
 (-----)  
 ( NOISE SOURCE/SUBJECT:  
 ( T-38A AIRCRAFT  
 ( J85-GE-5A ENGINE  
 ( FAR FIELD NOISE  
 ( OPERATION:  
 ( MAXIMUM POWER  
 ( 100% RPM AND AFTERBURNER  
 ( BOTH ENGINES  
 ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 (-----)  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-056  
 ( RUN 04  
 ( 20 OCT 75  
 ( PAGE 13

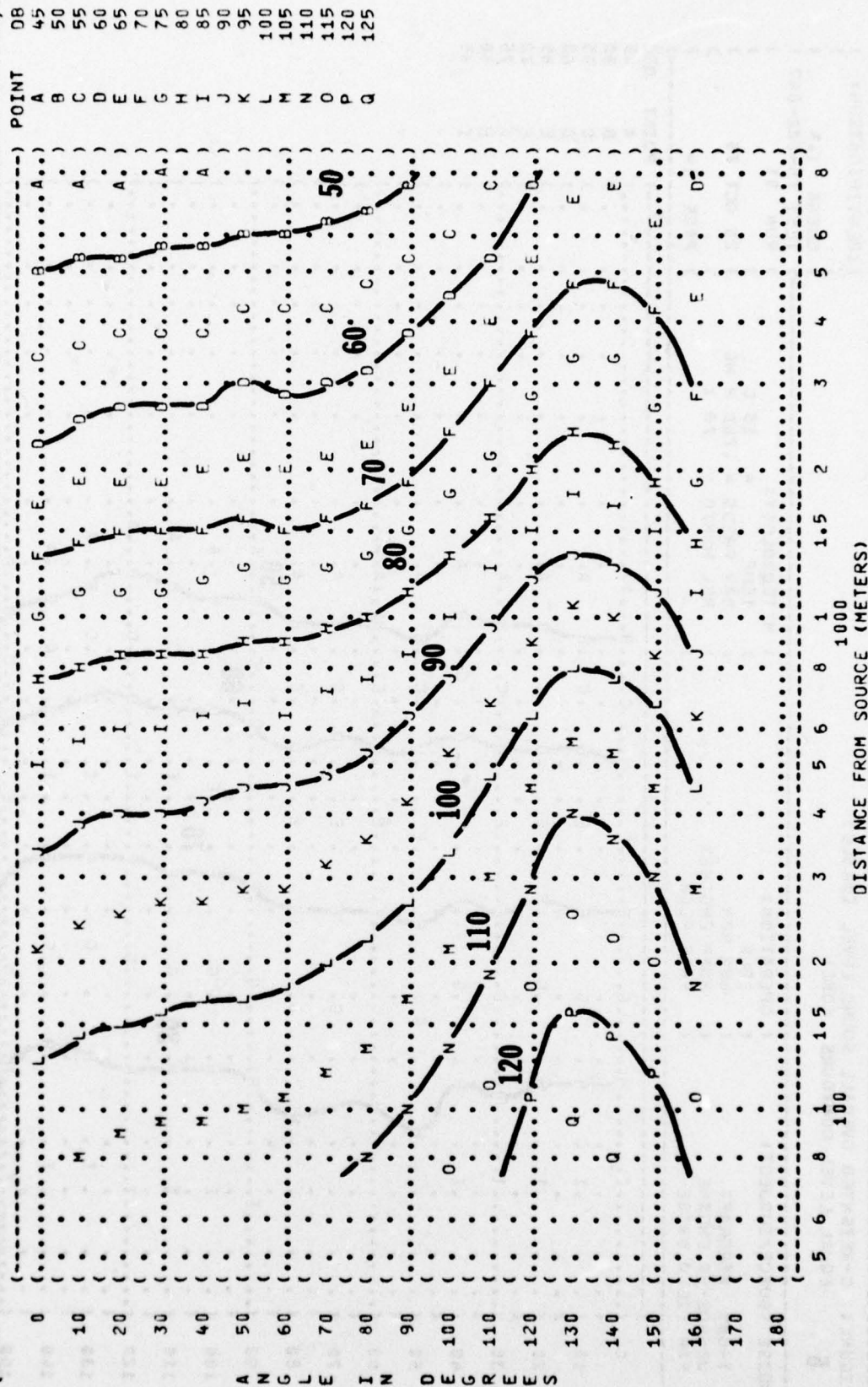


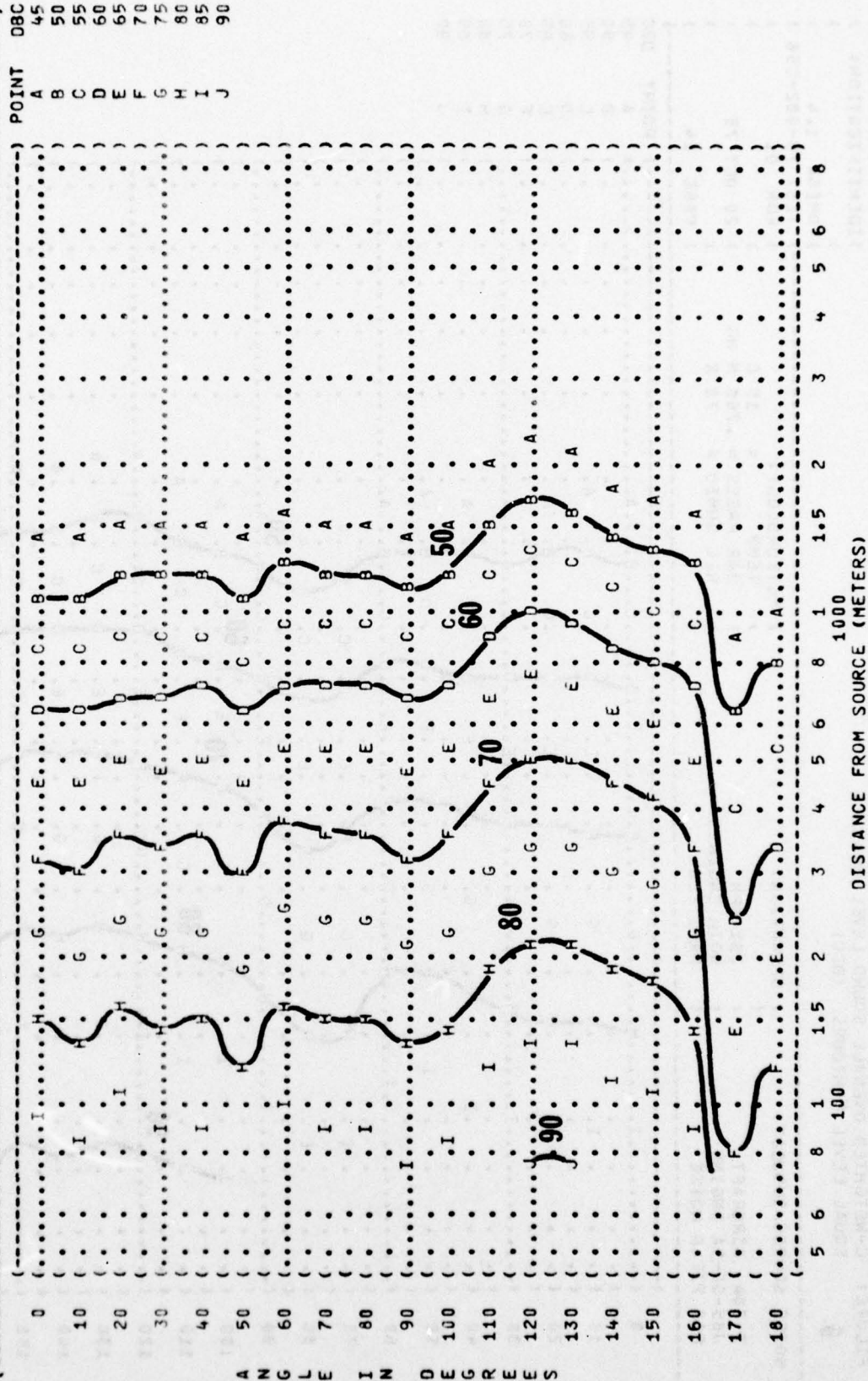




FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC)  
EQUAL LEVEL CONTOURS (OBC)

6

IDENTIFICATION: )  
OMEGA 1.4  
TEST 75-002-047  
RUN 02  
METEOROLOGY: )  
TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %  
20 OCT 75  
PAGE 14  
NOISE SOURCE/SUBJECT: ( OPERATION: )  
T-38A AIRCRAFT ( 70% RPM  
J85-GE-5A ENGINE ( BOTH ENGINES  
FAR FIELD NOISE ( FREE FLOW









**FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC)  
EQUAL LEVEL CONTOURS (OBC)**

6

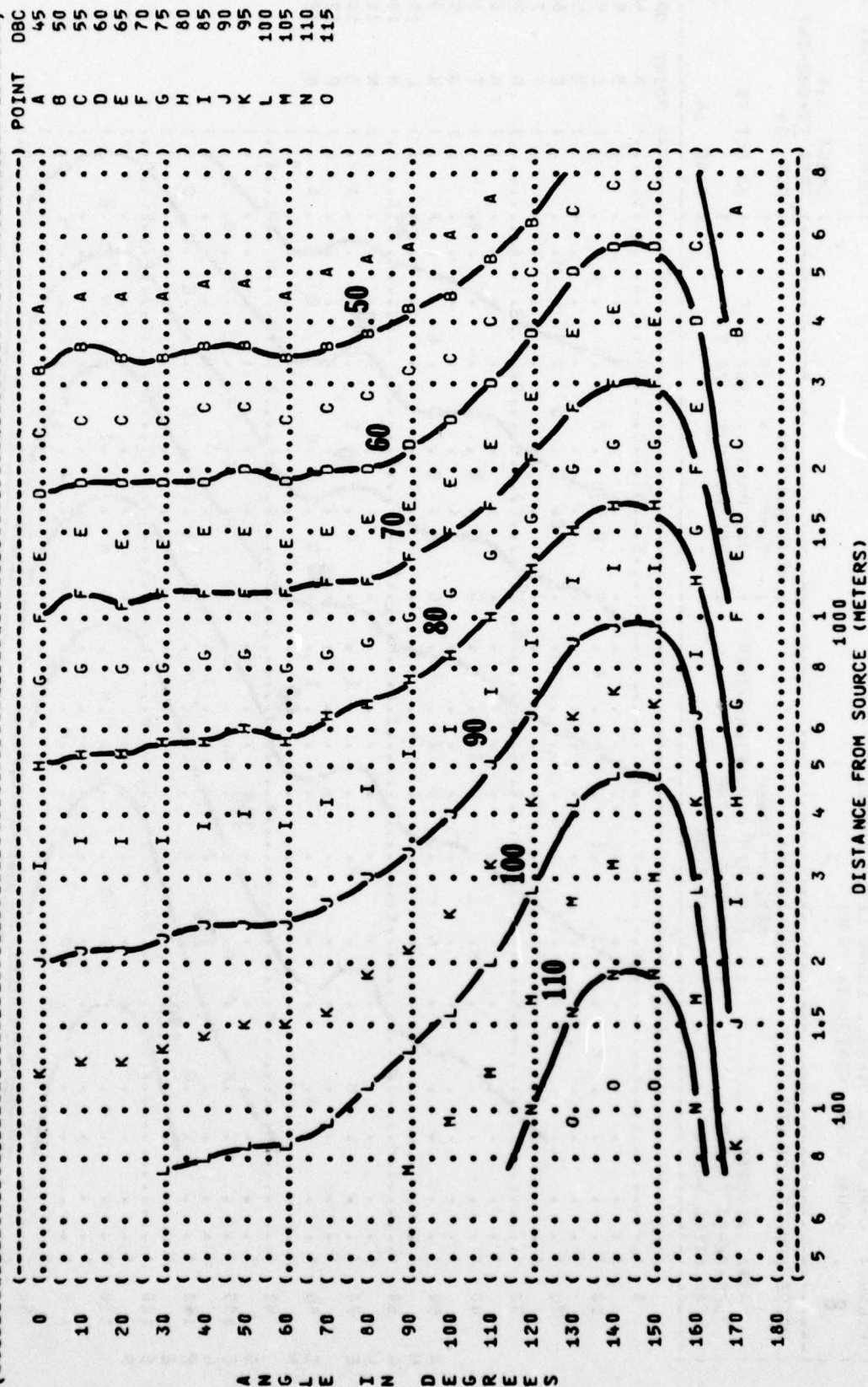
[illegible][illegible]

DISTANCE FROM SOURCE (METERS)

420 LE HZ DEUTERON



| FIGURE: C-WEIGHTED OVERALL SOUND LEVEL (OASLC) | IDENTIFICATION:       |
|--|-----------------------|
| 6  |                       |
| EQUAL LEVEL CONTOURS (DBC)                     |                       |
|  | OMEGA 1.4             |
|  | TEST 75-002-056       |
|  | RUN 03                |
| NOISE SOURCE/SUBJECT:                          | METEOROLOGY:          |
| ( MILITARY POWER                               | TEMP = 15 C           |
| ( 100% RPM                                     | BAR PRESS = .760 M HG |
| ( BOTH ENGINES                                 | REL HUMID = 70 %      |
| ( FREE FLOW                                    |                       |
| T-38A AIRCRAFT                                 | 20 OCT 75             |
| J85-GE-5A ENGINE                               |                       |
| FAR FIELD NOISE                                | PAGE 14               |





IDENTIFICATIONS:

1.4

## 1) METEOROLOGY:

TEMP = 15 C

BAR PRESS = .760 M HG

REL HUMID = 70 %

14 PAGE 14

[illegible]

DISTANCE FROM SOURCE (METERS)

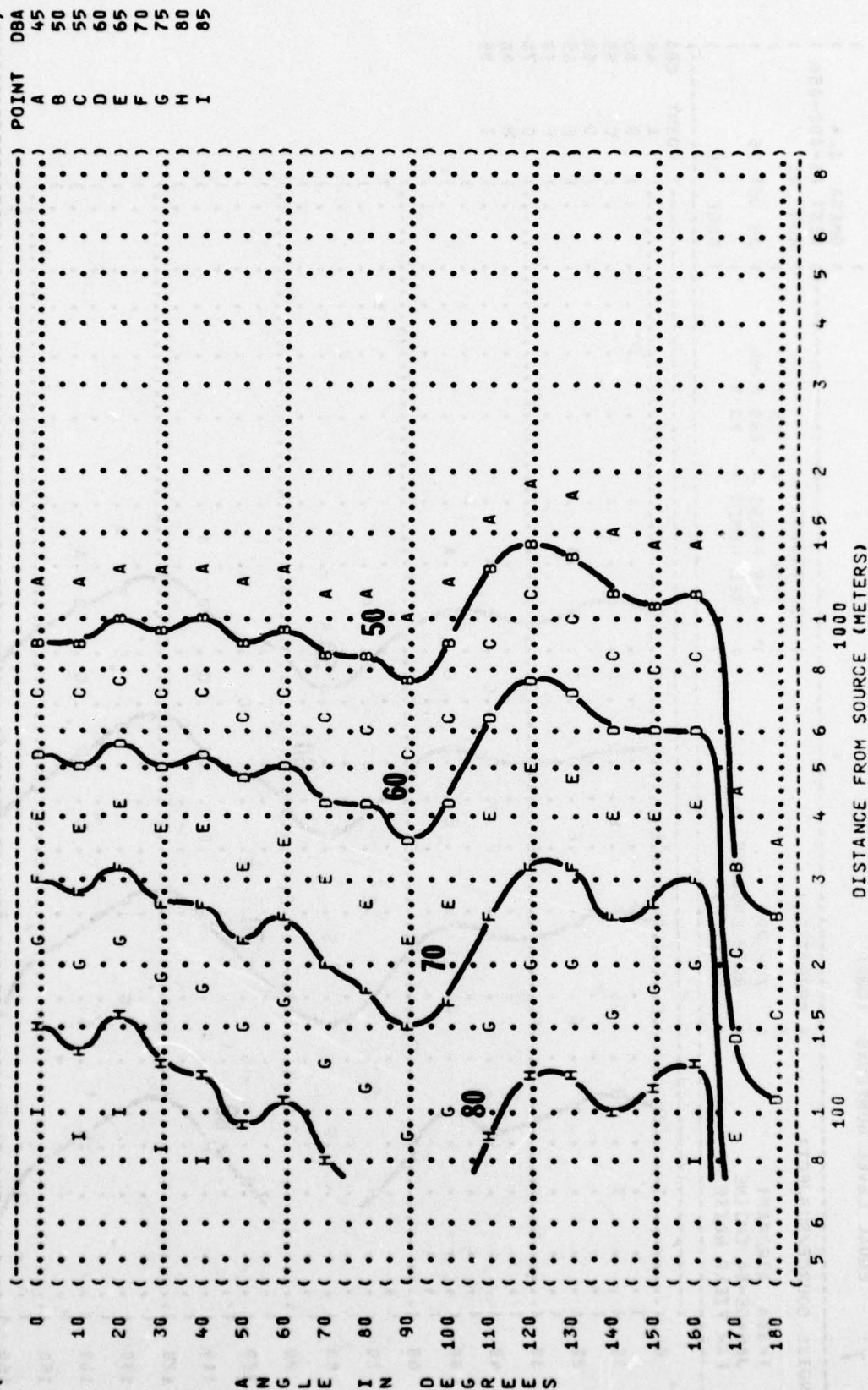


T-38A AIRCRAFT  
J85-GE-5A ENGINE  
FAR FIELD NOISE

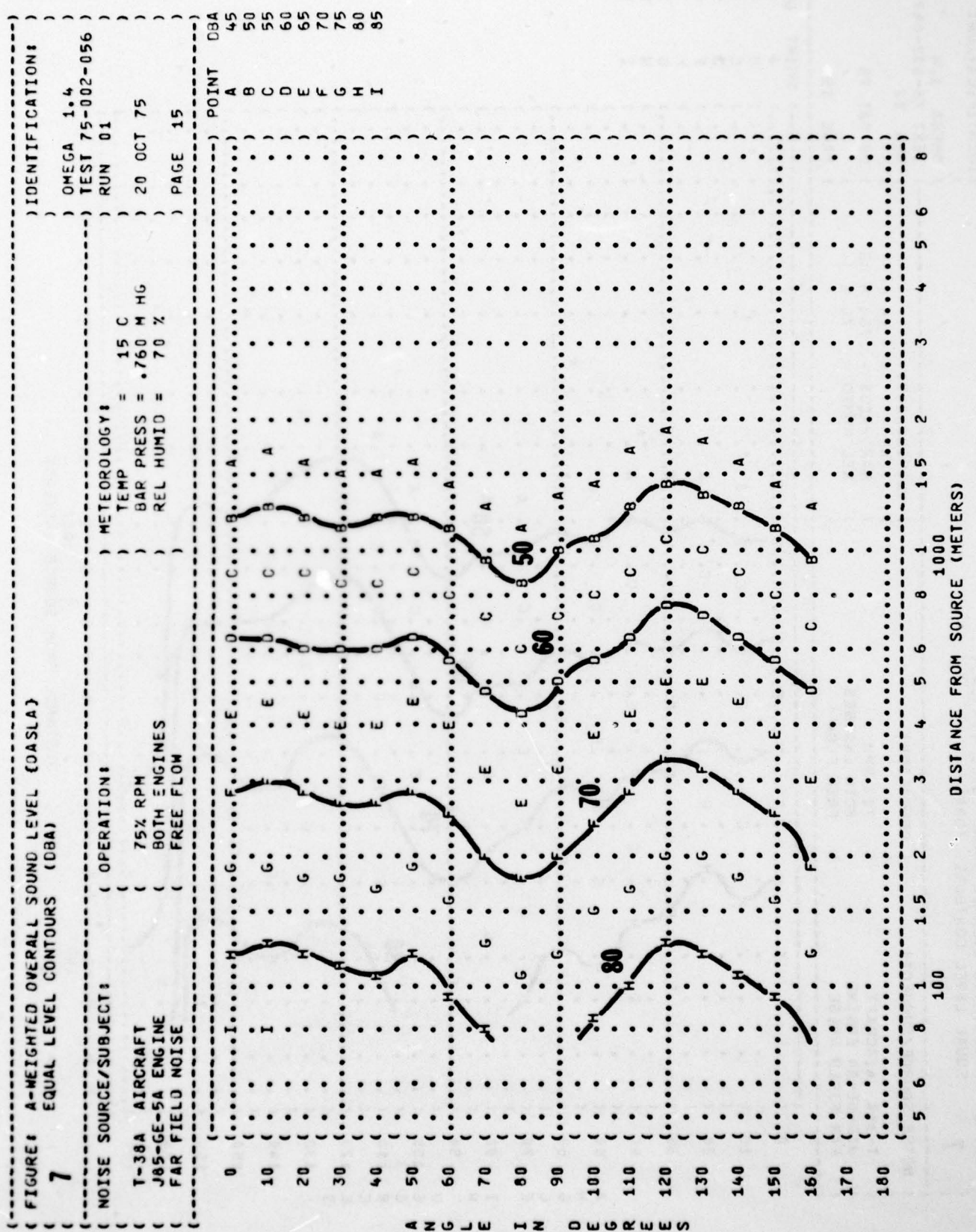
OPERATION:  
70% RPM  
BOTH ENGINES  
FREE FLOW

METEOROLOGY: =  
TEMP =  
BAR PRESS =  
REL HUMID =

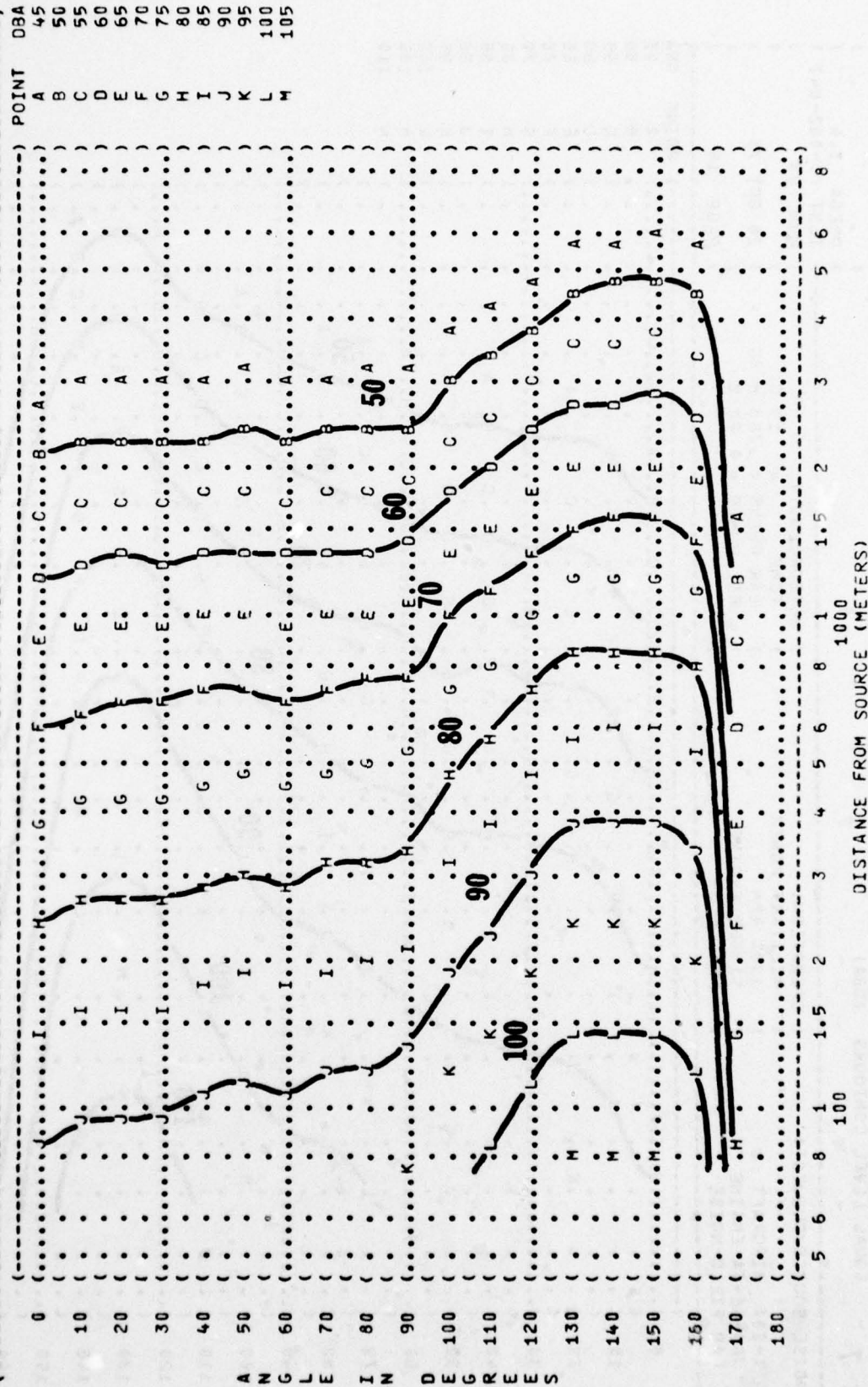
OMEGA 1.4  
TEST 75-002-047  
RUN 02  
20 OCT 75  
PAGE 15







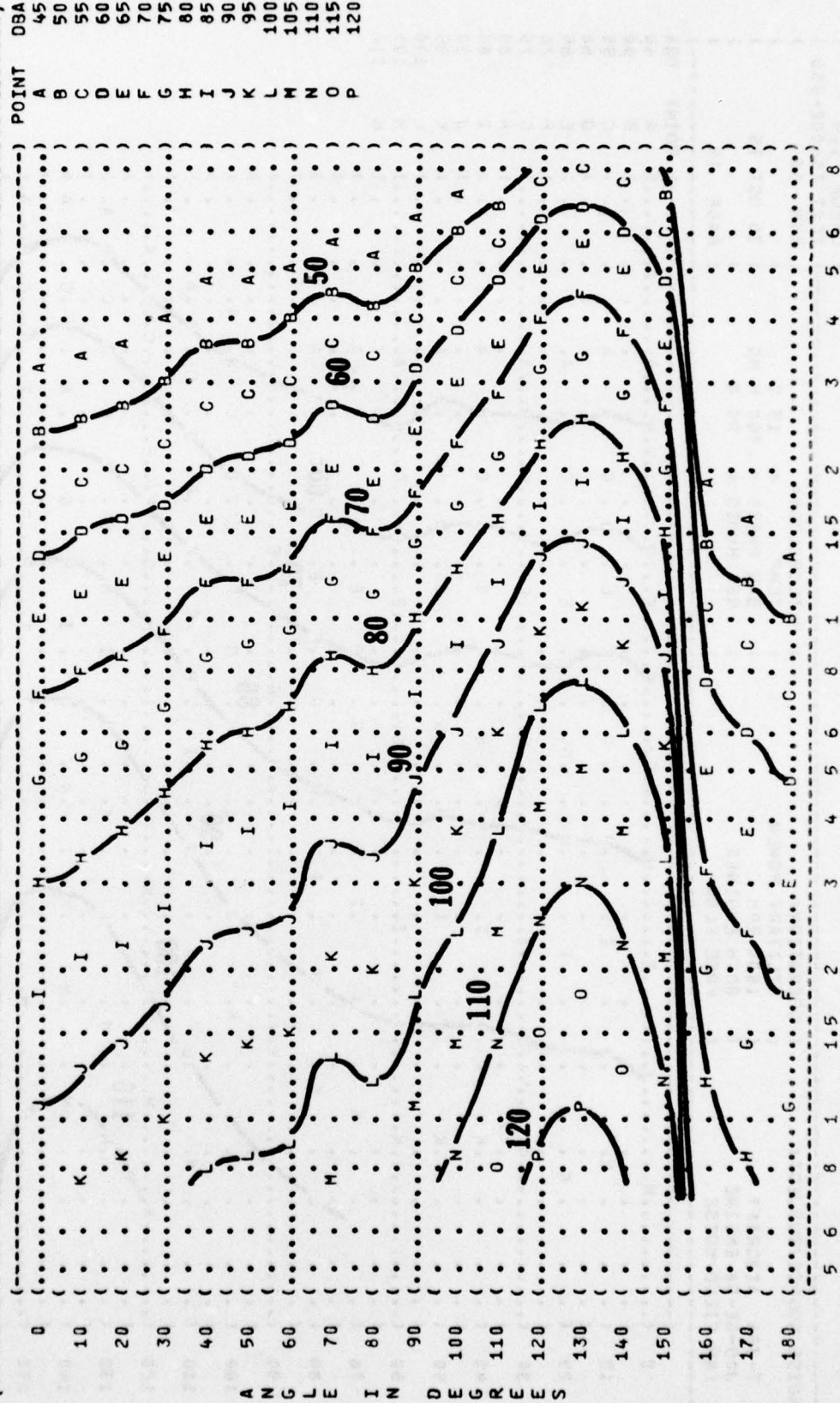
| FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (OASLA) | IDENTIFICATION:       |
|--|-----------------------|
| 7  |                       |
| EQUAL LEVEL CONTOURS (DBA)                     | OMEGA 1.4             |
|  | TEST 75-002-056       |
|  | RUN 02                |
| NOISE SOURCE/SUBJECT:                          | METEOROLOGY:          |
| ( TRIM CHECK                                   | TEMP = 15 C           |
| ( 94% RPM                                      | BAR PRESS = .760 M HG |
| ( 30TH ENGINES                                 | REL HUMID = 70 %      |
| ( FREE FLOW                                    |                       |
| T-38A AIRCRAFT                                 | 20 OCT 75             |
| J85-GE-5A ENGINE                               |                       |
| FAR FIELD NOISE                                | PAGE 15               |







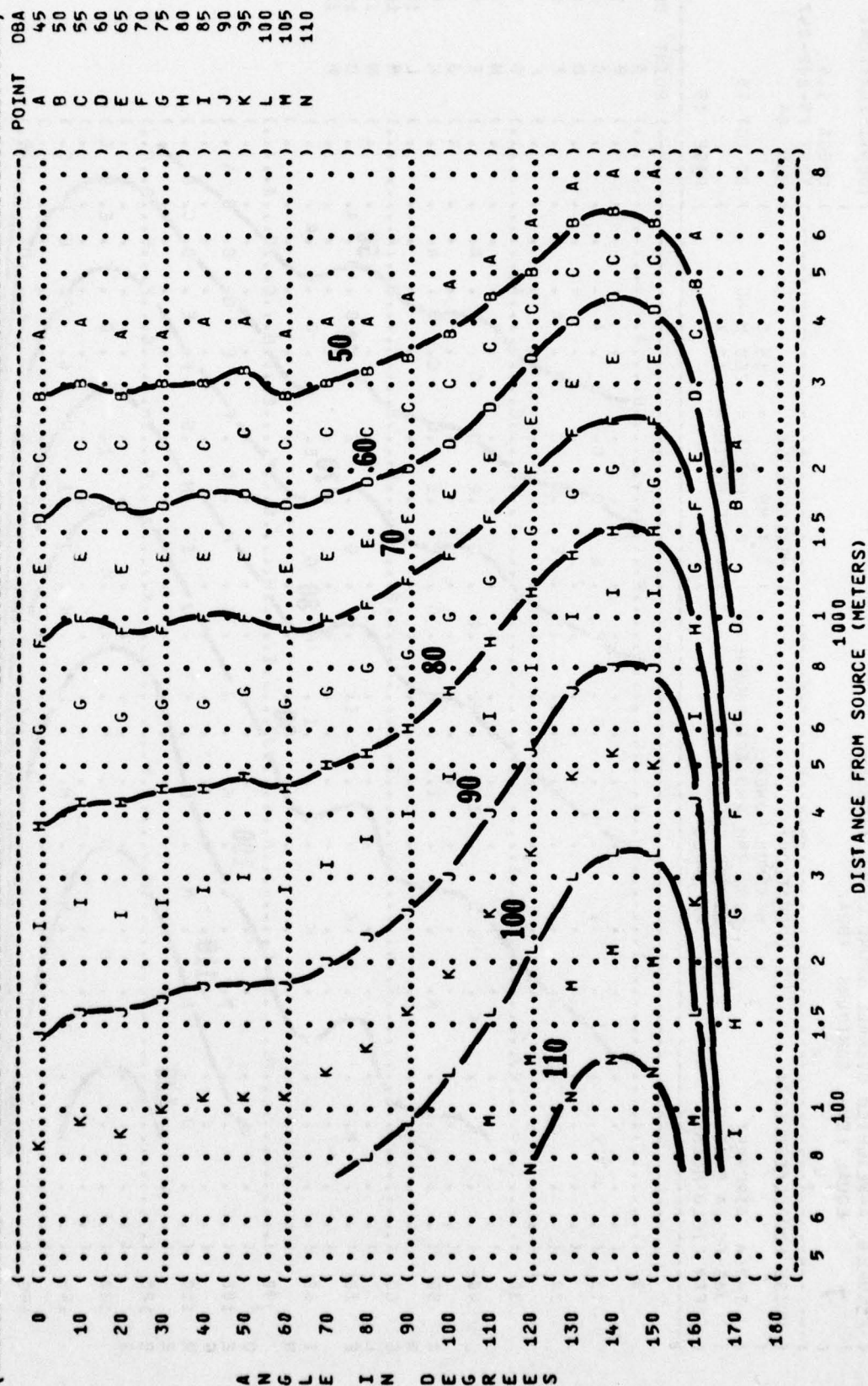
( FIGURE: A-WEIGHTED OVERALL SOUND LEVEL (OASLA) )  
 ( 7 EQUAL LEVEL CONTOURS (DBA) )  
 ( ) IDENTIFICATION: )  
 ( ) OMEGA 1.4 )  
 ( ) TEST 75-002-047 )  
 ( ) RUN 04 )  
 ( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )  
 ( ) OPERATION: )  
 ( ) MAXIMUM POWER )  
 ( ) 100% RPM AND AFTERBURNER )  
 ( ) T-38A AIRCRAFT )  
 ( ) J85-GE-5A ENGINE )  
 ( ) FAR FIELD NOISE )  
 ( ) TEMP = 15 C )  
 ( ) BAR PRESS = .760 M HG )  
 ( ) REL HUMID = 70 % )  
 ( ) 20 OCT 75 )  
 ( ) PAGE 15 )



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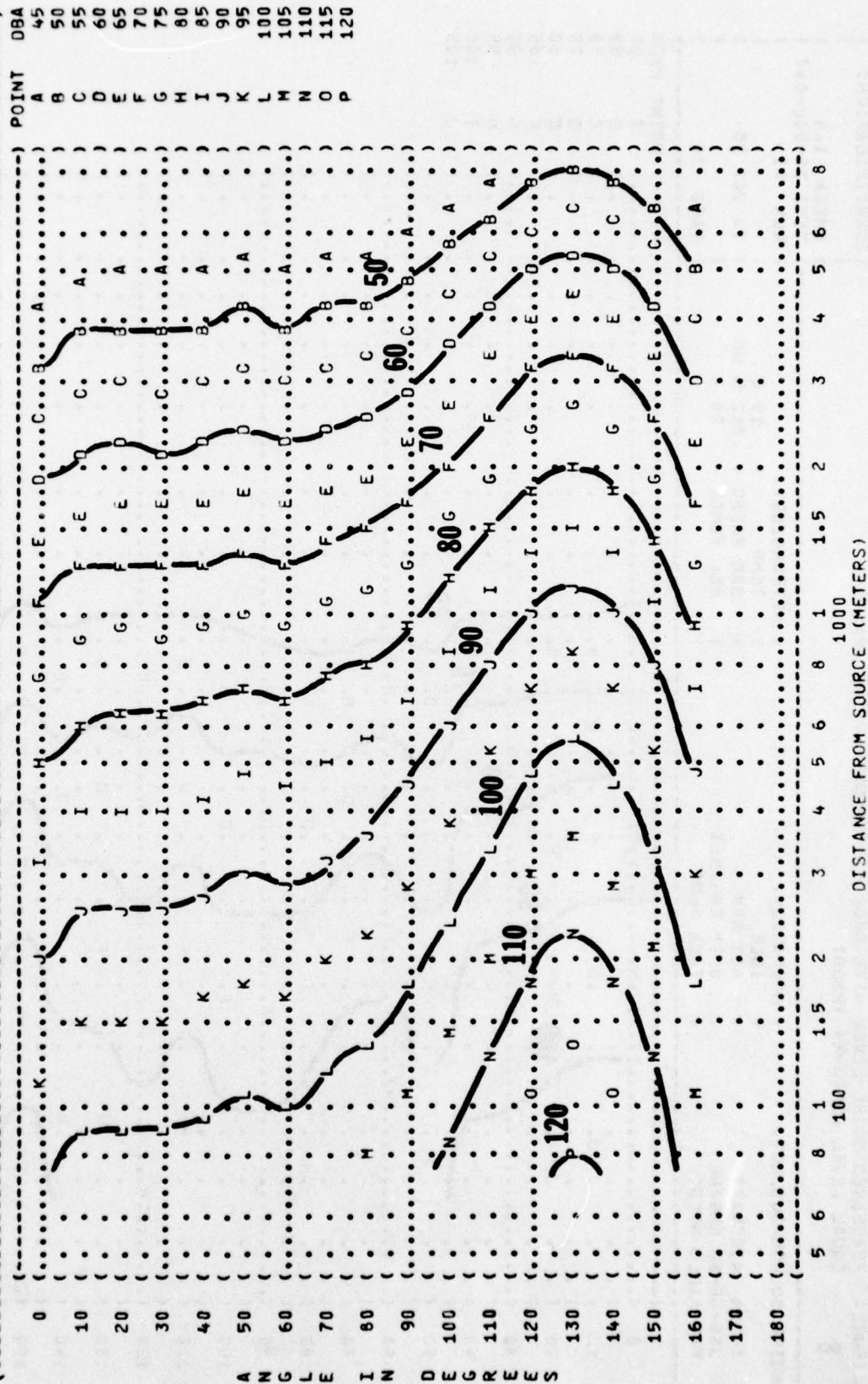
( ( FIGURE : A-WEIGHTED OVERALL SOUND LEVEL (OASLA)
( 7 EQUAL LEVEL CONTOURS (DBA)
(
( ( NOISE SOURCE/SUBJECT:
( ( OPERATION:
( ( MILITARY POWER
( ( 100% RPM
( ( BOTH ENGINES
( ( FREE FLOW
(
( METEOROLOGY :
( TEMP = 15 C
( BAR PRESS = .760 M HG
( REL HUMID = 70 %
(
( IDENTIFICATION :
( ) OMEGA 1.4
( ) TEST 75-002-056
( ) RUN 03
( ) 20 OCT 75
( ) PAGE 15
(

```





```
(-----)
( FIGURE: A-WEIGHTED OVERALL SOUND LEVEL {OASLA} ) IDENTIFICATION: )
(      7      EQUAL LEVEL CONTOURS   (DBA) ) )
( ) ) OMEGA 1.4 )
( ) ) TEST 75-002-056 )
(-----)
( NOISE SOURCE/SUBJECT: ) METEOROLOGY: ) RUN 04 )
( ) ) ) ) ) )
( ) ) OPERATION: ) TEMP = 15 C ) )
( ) ) MAXIMUM POWER ) BAR PRESS = .760 M HG ) )
( ) ) 100% RPM AND AFTERBURNER ) REL HUMID = 70 % ) )
( ) ) BOTH ENGINES ) ) )
( ) ) FREE FLOW ) ) PAGE 15 )
(-----)
```





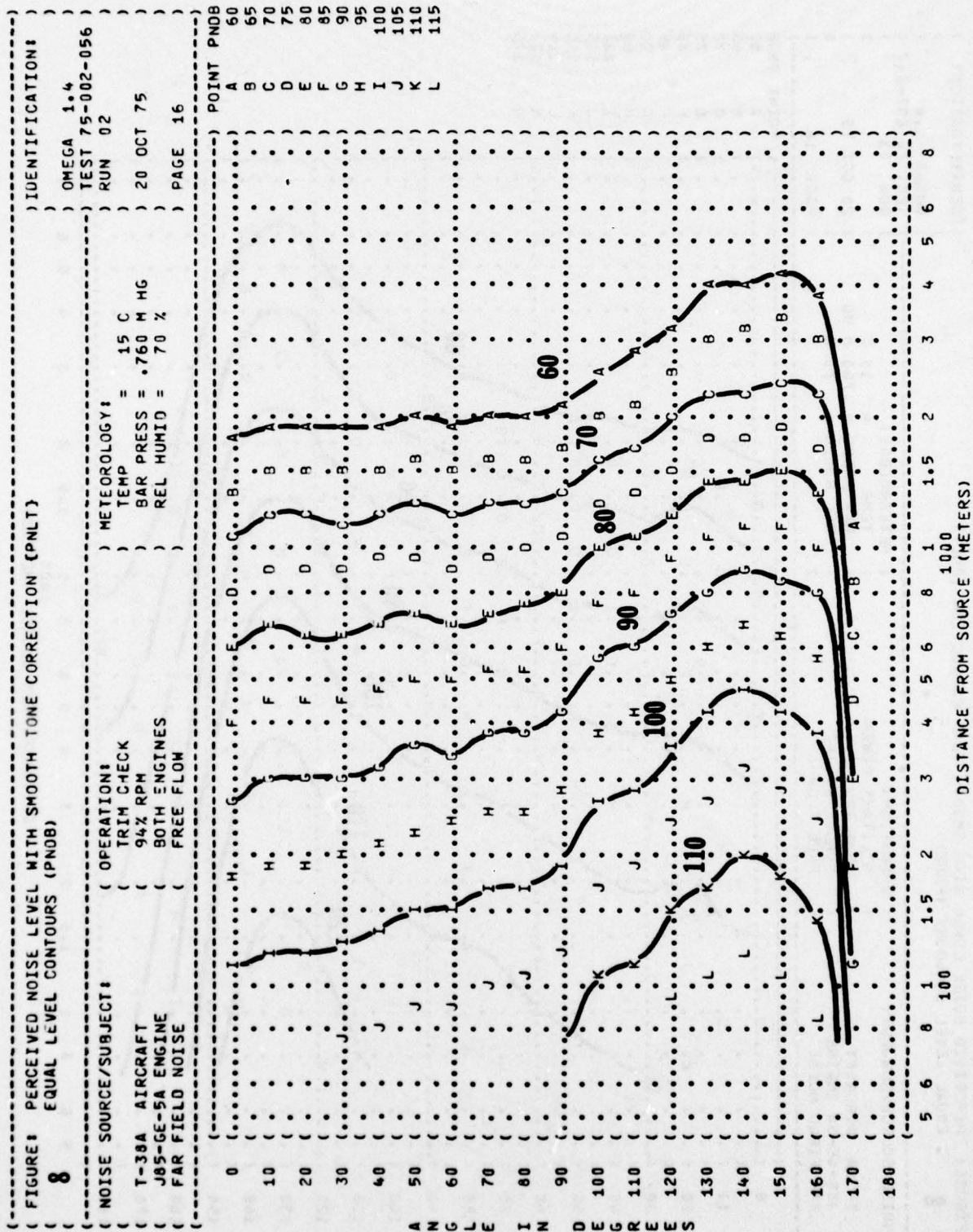


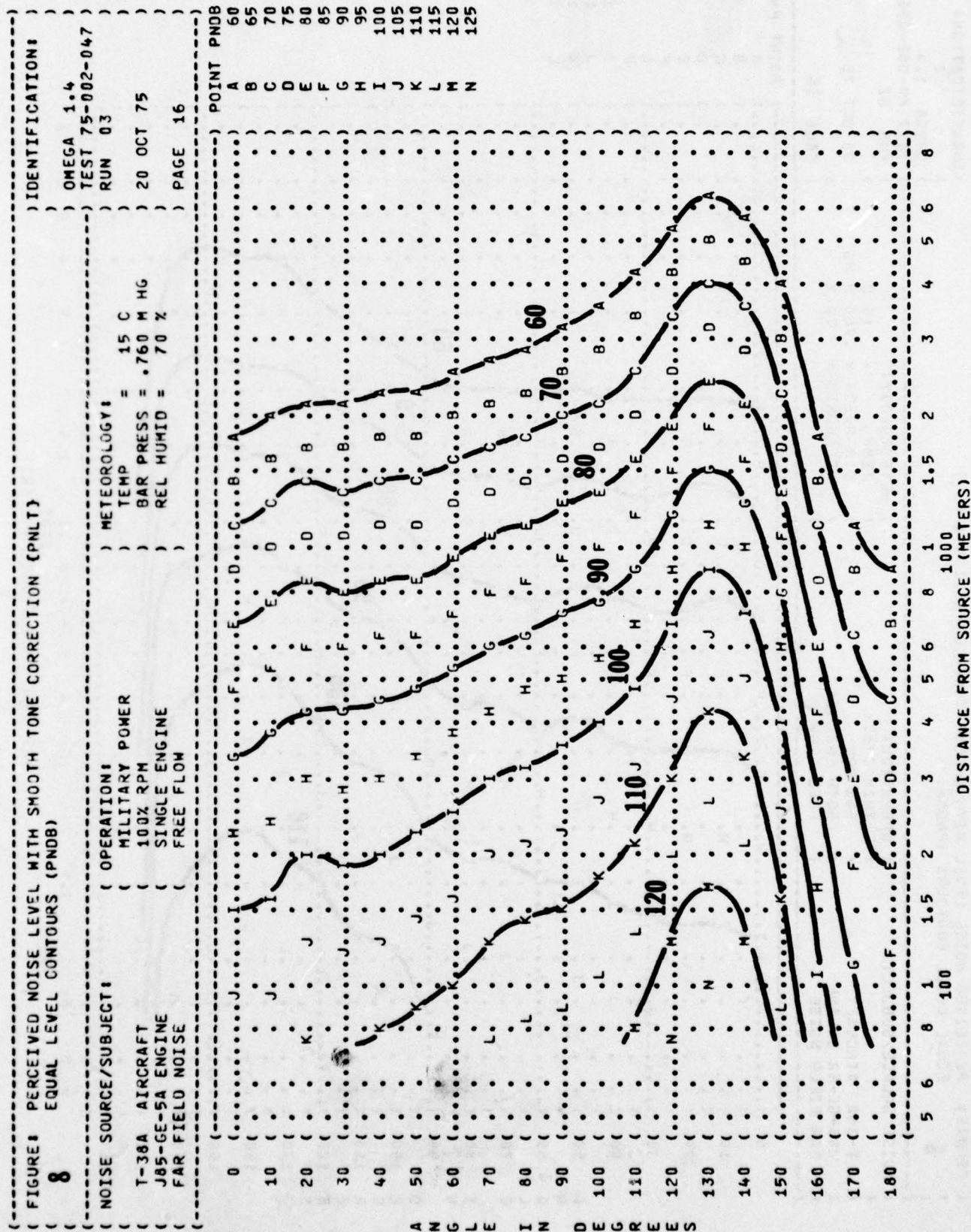
(.....) POINT PN08

1000  
DISTANCE FROM SOURCE (METERS)





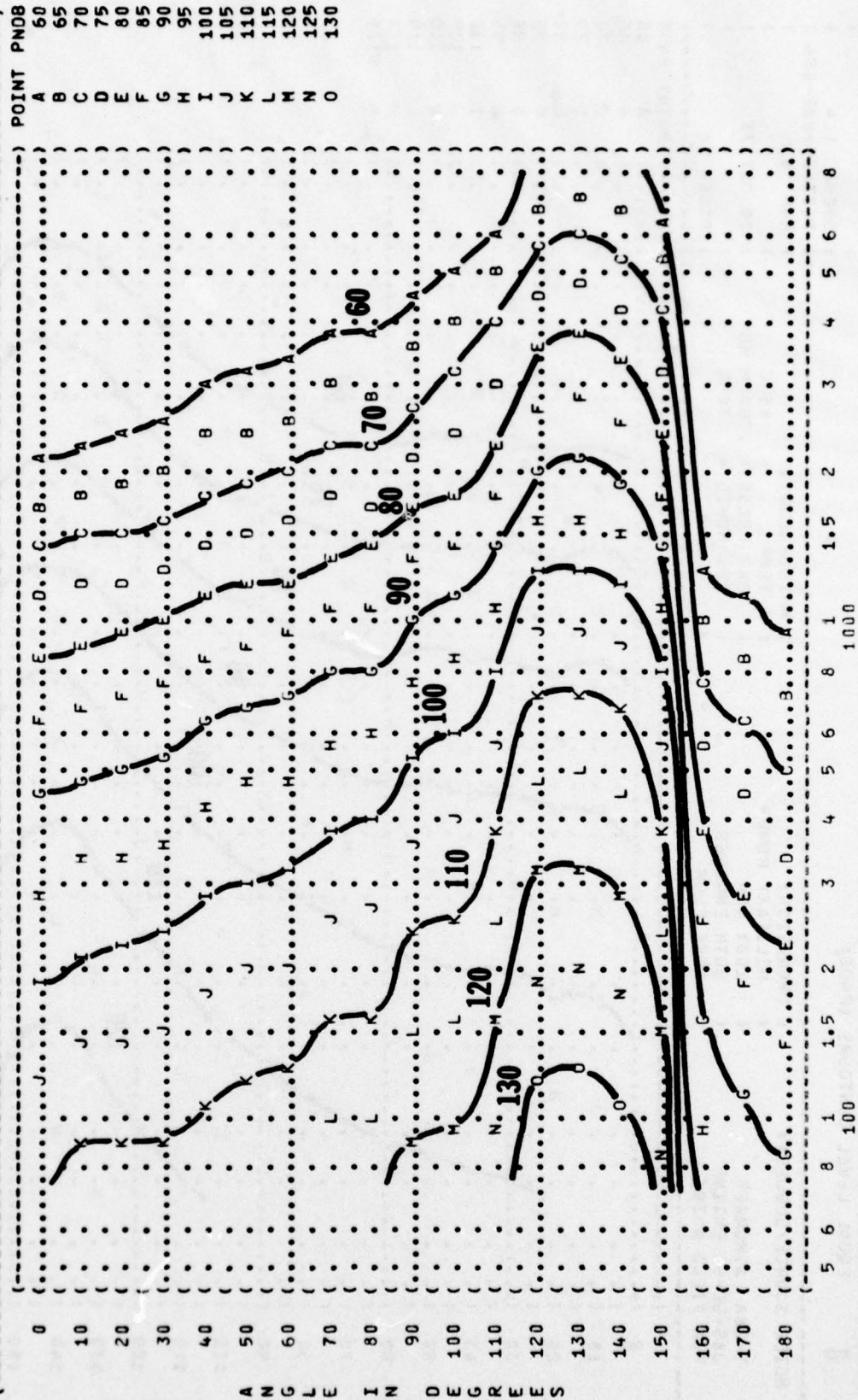




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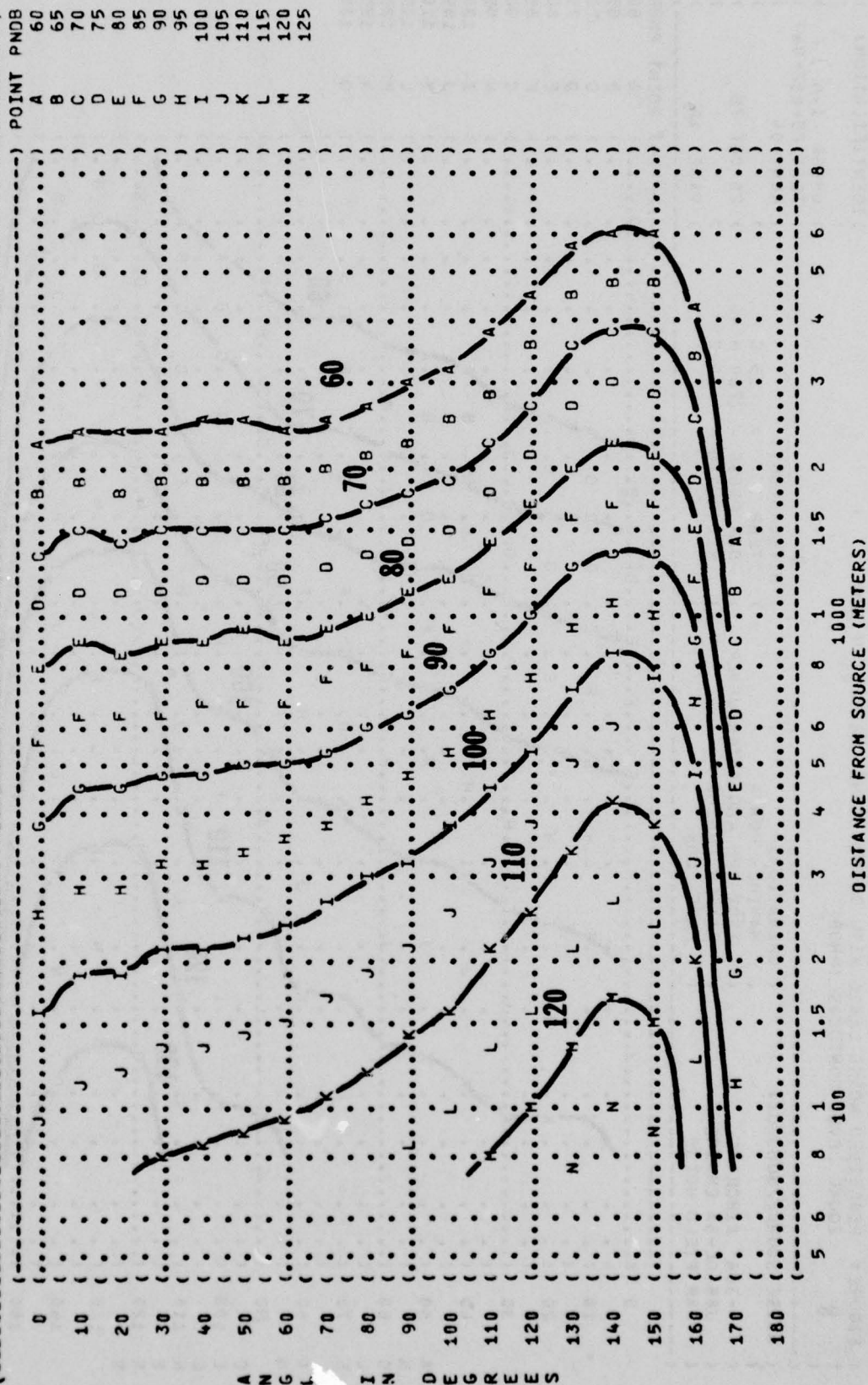
( ( ( FIGURE: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) ) ) )
( ( ( 8 ) ) )
( ( ( EQUAL LEVEL CONTOURS (PNDB) ) ) )
( ( ( NOISE SOURCE/SUBJECT: ) ) )
( ( ( OPERATION: ) ) )
( ( ( MAXIMUM POWER ) ) )
( ( ( 100% RPM AND AFTERBURNER ) ) )
( ( ( SINGLE ENGINE ) ) )
( ( ( FREE FLOW ) ) )
( ( ( METEOROLOGY: ) ) )
( ( ( TEMP = 15 C ) ) )
( ( ( BAR PRESS = .760 M HG ) ) )
( ( ( REL HUMID = 70 % ) ) )
( ( ( IDENTIFICATION: ) ) )
( ( ( OMEGA 1.4 ) ) )
( ( ( TEST 75-002-047 ) ) )
( ( ( RUN 04 ) ) )
( ( ( 20 OCT 75 ) ) )
( ( ( PAGE 16 ) ) )

```



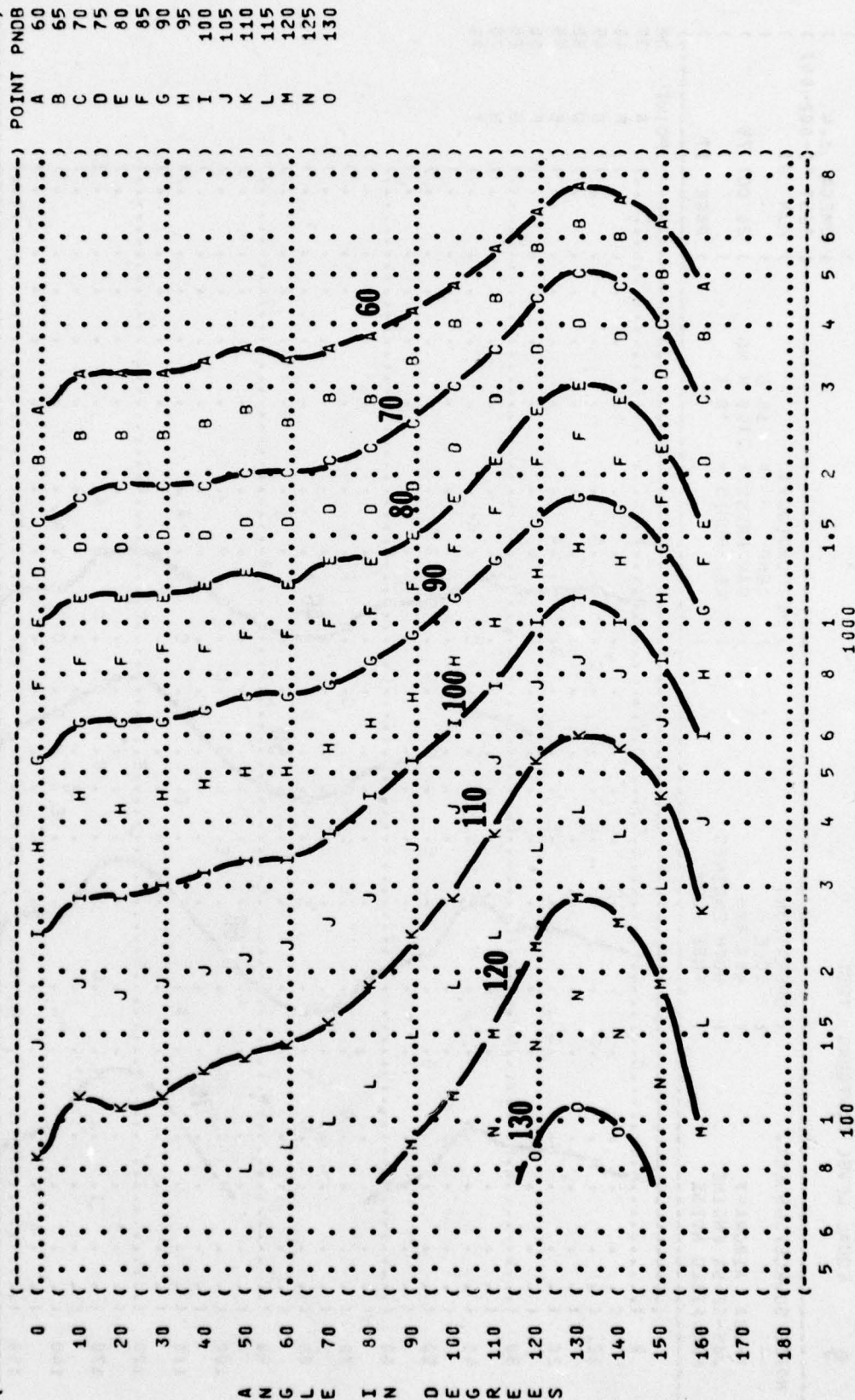


| FIGURE               | PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) | IDENTIFICATION        |
|----------------------|--|-----------------------|
| 8                    | EQUAL LEVEL CONTOURS (PN0B)                              | OMEGA 1.4             |
|                      |  | TEST 75-002-056       |
|                      |  | RUN 03                |
| NOISE SOURCE/SUBJECT | OPERATION  | METEOROLOGY           |
| T-38A AIRCRAFT       | MILITARY POWER   | TEMP = 15 C           |
| J85-GE-5A ENGINE     | 100% RPM   | BAR PRESS = .760 M HG |
| FAR FIELD NOISE      | BOTH ENGINES   | REL HUMID = 70 %      |
|                      | FREE FLOW  | PAGE 16               |

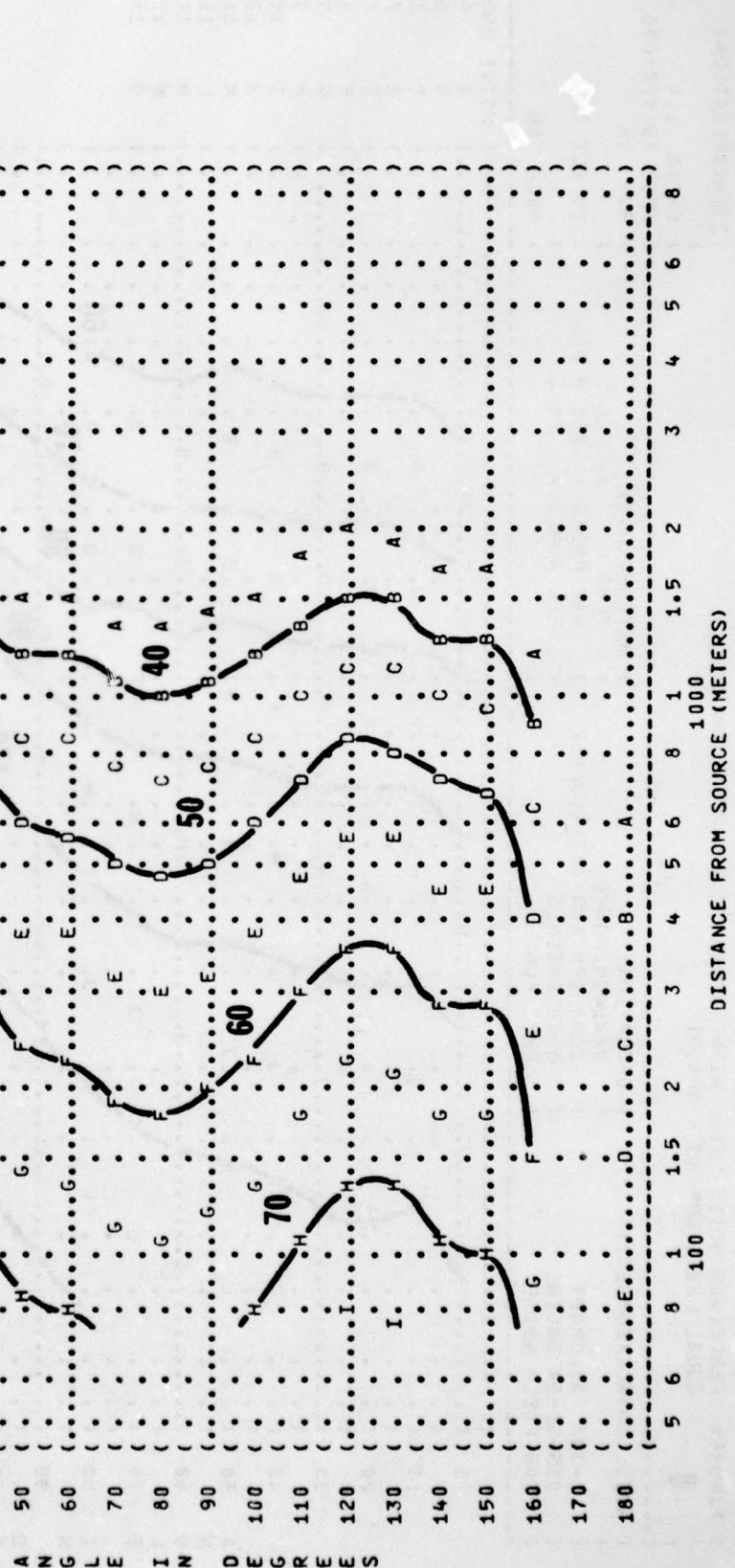


ANGLE IN DEGREES

( FIGURE: PERCEIVED NOISE LEVEL WITH SMOOTH TONE CORRECTION (PNLT) )  
 ( 8 EQUAL LEVEL CONTOURS (PNDB) )  
 ( ) IDENTIFICATION: )  
 ( ) OMEGA 1.4 )  
 ( TEST 75-002-056 )  
 ( ) RUN 04 )  
 ( NOISE SOURCE/SUBJECT: )  
 ( ) OPERATION: )  
 ( ) MAXIMUM POWER )  
 ( ) 100% RPM AND AFTERBURNER )  
 ( ) BOTH ENGINES )  
 ( ) FREE FLOW )  
 ( ) METEOROLOGY: )  
 ( ) TEMP = 15 C )  
 ( ) BAR PRESS = .760 M HG )  
 ( ) REL HUMID = 70 % )  
 ( ) 20 OCT 75 )  
 ( ) PAGE 16 )



( FIGURE: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)  
 ( 9  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( ) IDENTIFICATION: )  
 ( ) OMEGA 1.4  
 ( ) TEST 75-002-047  
 ( ) RUN 01  
 ( ) METEOROLOGY: )  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .760 M HG  
 ( ) REL HUMID = 70 %  
 ( ) 20 OCT 75  
 ( ) PAGE 17  
 ( ) POINT DB  
 ( ) A 35  
 ( ) B 40  
 ( ) C 45  
 ( ) D 50  
 ( ) E 55  
 ( ) F 60  
 ( ) G 65  
 ( ) H 70  
 ( ) I 75





# FIGURE 1: PULVERIZED SPEECH INTERFERENCE LEVEL {PSIL} EQUAL LEVEL CONTOURS (DB)

NOISE SOURCE/SUBJECT:

T-38A AIRCRAFT  
J85-GE-5A ENGINE  
FAR FIELD NOISE

OPERATION:

( 70% RPM  
( BOTH ENGINES  
( FREE FLOW

METEOROLOGY:

TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

IDENTIFICATION:

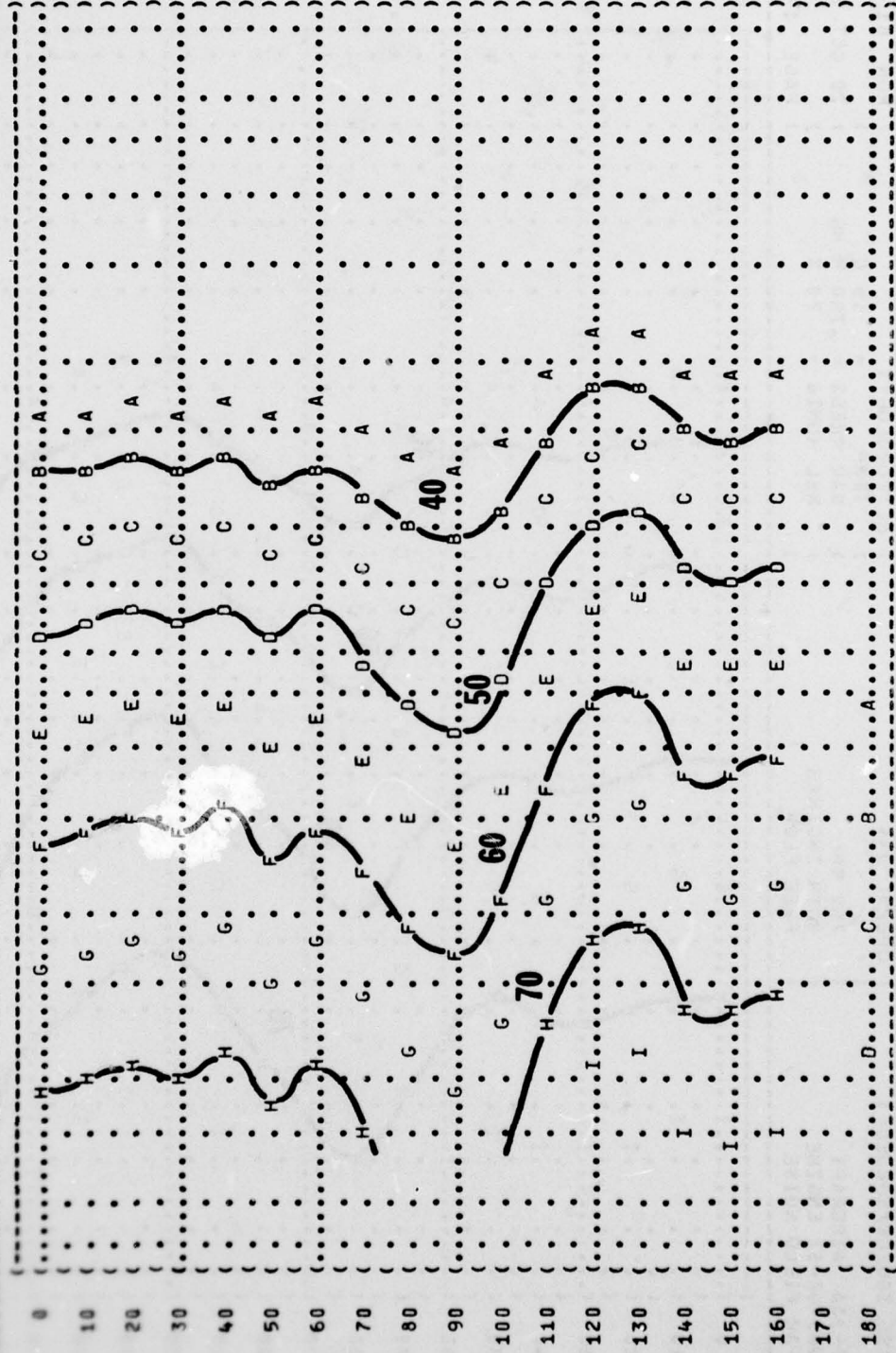
OMEGA 1.4  
TEST 75-002-047

RUN 02

20 OCT 75

PAGE 17

POINT DB  
A 35  
B 40  
C 45  
D 50  
E 55  
F 60  
G 65  
H 70  
I 75

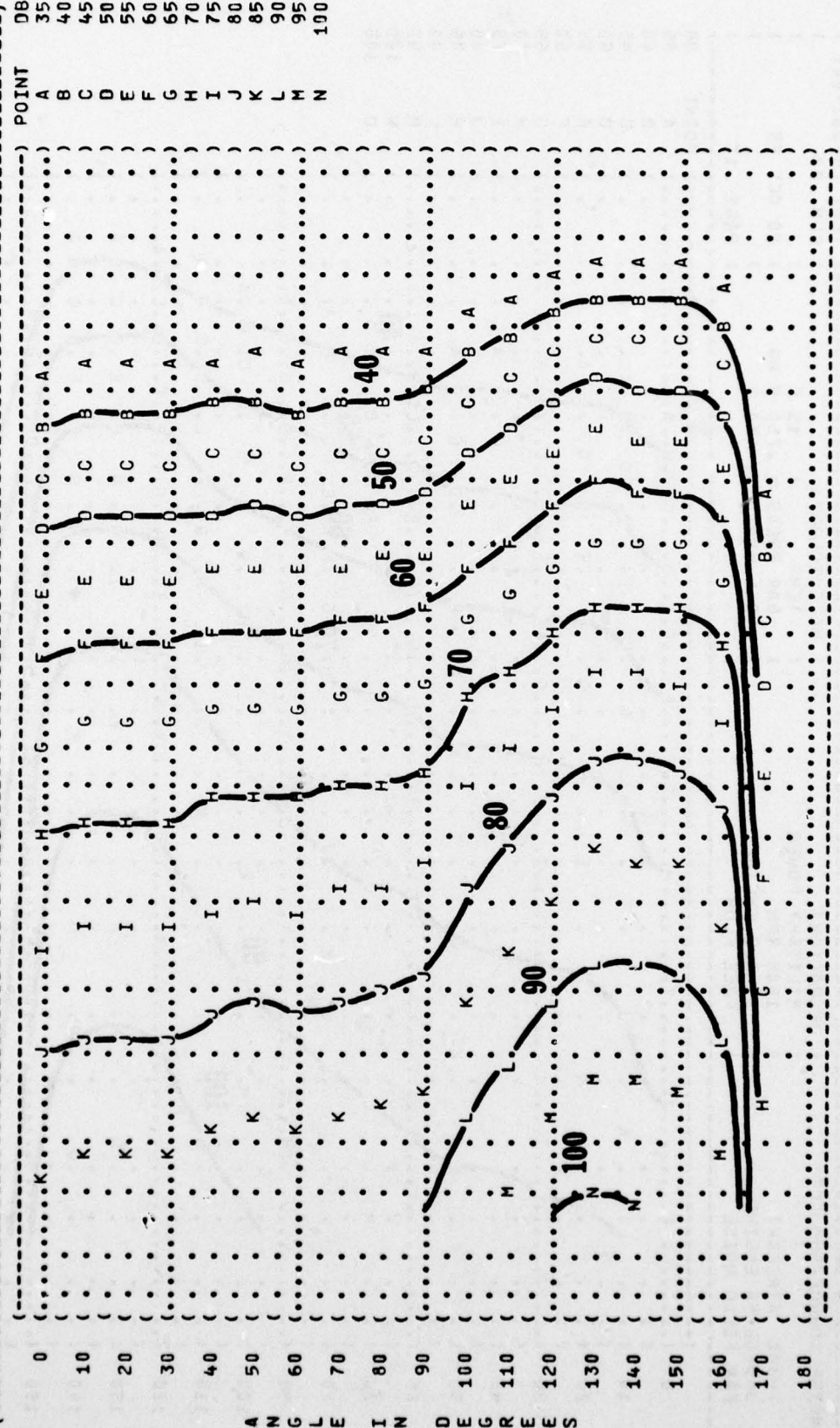


DISTANCE FROM SOURCE (METERS)

ANGLE IN DEGREES



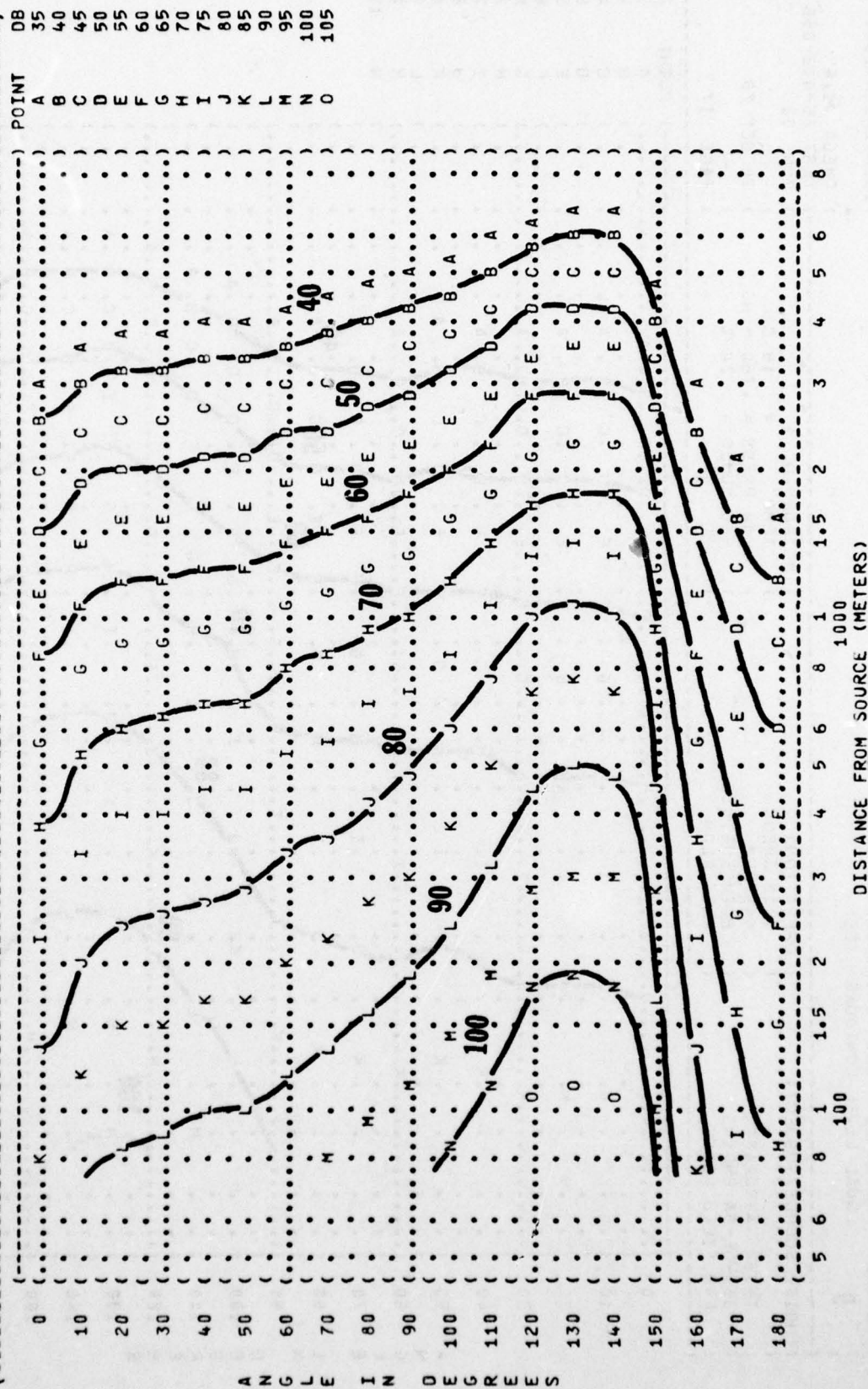
( FIGURE: 9 )  
 ( PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) )  
 ( EQUAL LEVEL CONTOURS (DB) )  
 ( NOISE SOURCE/SUBJECT: )  
 ( OPERATION: )  
 ( TRIM CHECK )  
 ( 94% RPM )  
 ( BOTH ENGINES )  
 ( FREE FLOW )  
 ( T-38A AIRCRAFT )  
 ( J85-GE-5A ENGINE )  
 ( FAR FIELD NOISE )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-056 )  
 ( RUN 02 )  
 ( 20 OCT 75 )  
 ( PAGE 17 )



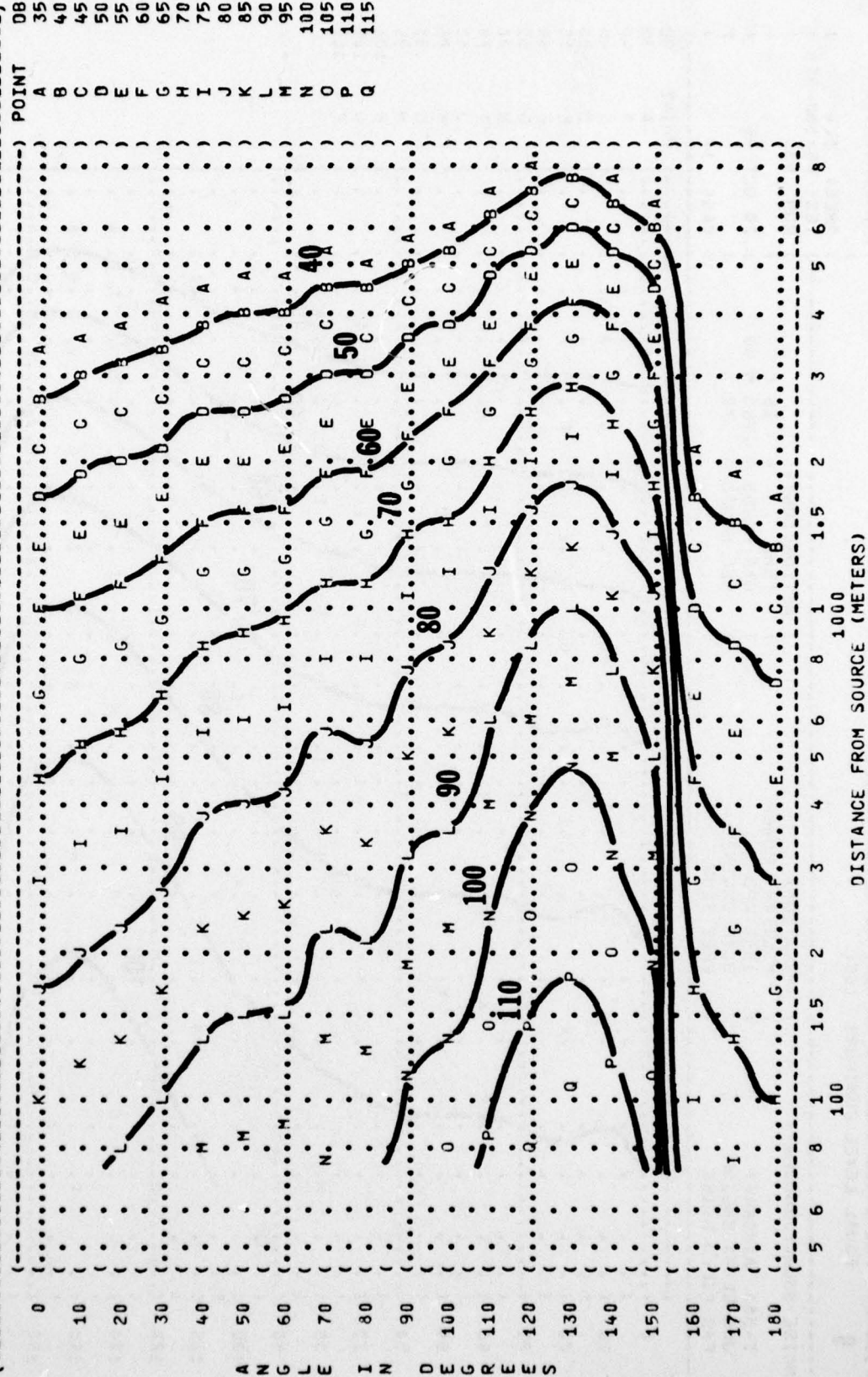
DISTANCE FROM SOURCE (METERS)



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(-----)
( FIGURE: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) ) IDENTIFICATION: )
(      9      EQUAL LEVEL CONTOURS   (DB) ) )
( ) )
( ) )
( ) )
( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )
( ) ) TEMP = 15 C )
( T-38A AIRCRAFT ) MILITARY POWER ) BAR PRESS = .760 M HG )
( J85-GE-5A ENGINE ) 100% RPM ) REL HUMID = 70 % )
( FAR FIELD NOISE ) SINGLE ENGINE ) )
( ) FREE FLOW ) ) PAGE 17 )
(-----)
```

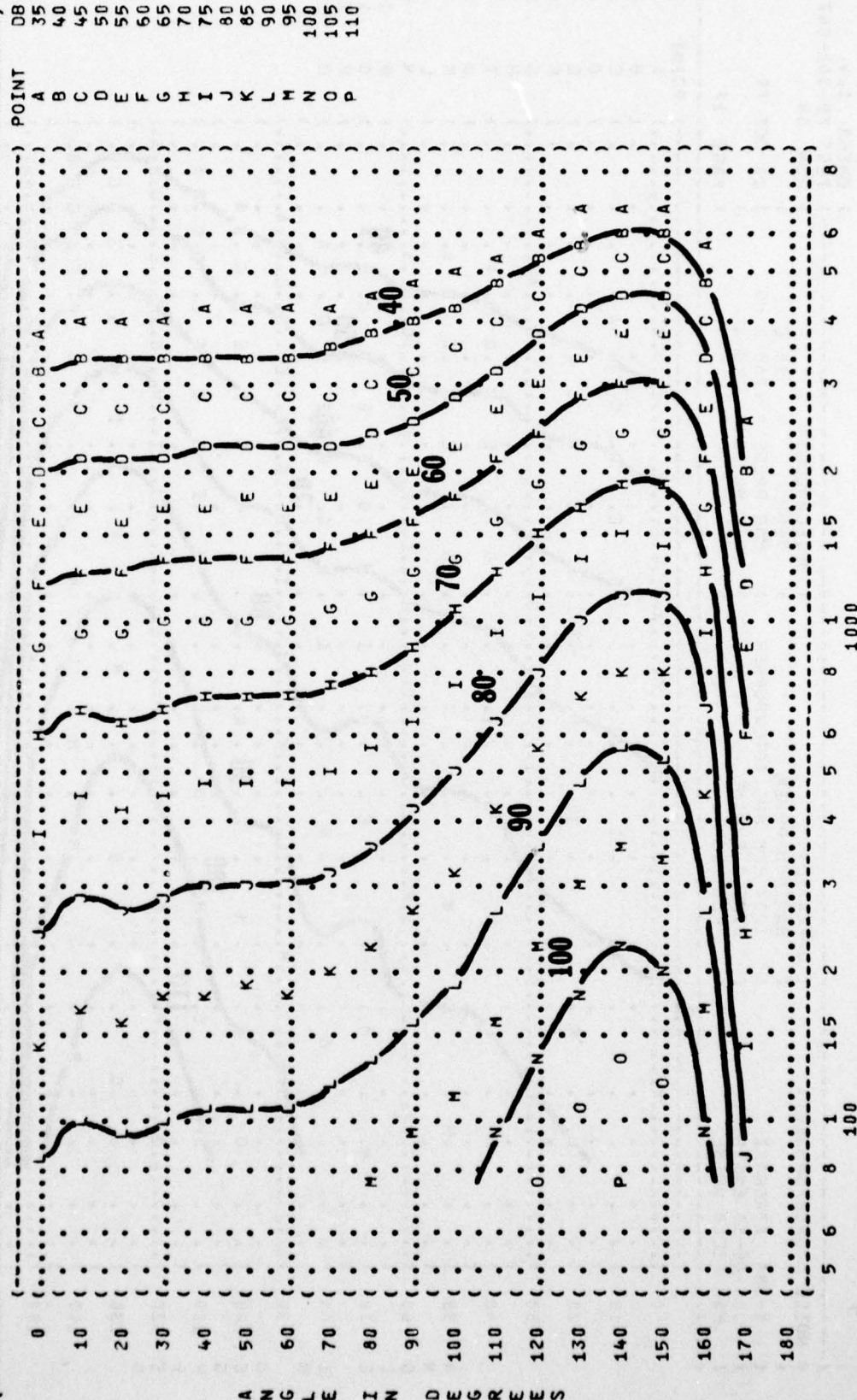


| FIGURE:               | PREFERRED SPEECH INTERFERENCE LEVEL (PSIL) | IDENTIFICATION:       |
|-----------------------|--|-----------------------|
| 9                     | EQUAL LEVEL CONTOURS (DB)                  |                       |
| NOISE SOURCE/SUBJECT: | OPERATION:                                 | METEOROLOGY:          |
| T-38A AIRCRAFT        | MAXIMUM POWER                              | TEMP = 15 C           |
| J85-GE-5A ENGINE      | 100% RPM AND AFTERBURNER                   | BAR PRESS = .760 M HG |
| FAR FIELD NOISE       | SINGLE ENGINE                              | REL HUMID = 70 %      |
|                       | FREE FLOW                                  |                       |
|                       |  | PAGE 17               |





( ) FIGURE: PREFERRED SPEECH INTERFERENCE LEVEL (PSIL)  
 ( ) 9  
 ( ) IDENTIFICATION:  
 ( )  
 ( ) OMEGA 1.4  
 ( ) TEST 75-002-056  
 ( ) RUN 03  
 ( ) METEOROLOGY:  
 ( ) TEMP = 15 C  
 ( ) BAR PRESS = .750 M HG  
 ( ) REL HUMID = 70 %  
 ( ) 20 OCT 75  
 ( ) PAGE 17  
 ( )  
 ( ) NOISE SOURCE/SUBJECT:  
 ( ) OPERATION:  
 ( ) MILITARY POWER  
 ( ) 100% RPM  
 ( ) BOTH ENGINES  
 ( ) FREE FLOW  
 ( ) T-38A AIRCRAFT  
 ( ) J85-GE-5A ENGINE  
 ( ) FAR FIELD NOISE









| FIGURE               | MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) | IDENTIFICATION        |
|----------------------|---|-----------------------|
| 10                   | EQUAL TIME CONTOURS (MINUTES)   |                       |
|                      |   | OMEGA 1.4             |
|                      |   | TEST 75-002-047       |
|                      |   | RUN 01                |
| NOISE SOURCE/SUBJECT | OPERATION   | METEOROLOGY           |
|                      | IDLE  | TEMP = 15 C           |
| T-38A AIRCRAFT       | 48% RPM   | BAR PRESS = .760 M HG |
| J85-GE-5A ENGINE     | BOTH ENGINES  | REL HUMID = 70 %      |
| FAR FIELD NOISE      | FREE FLOW   | PAGE 8                |

PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY  
AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 75 METERS  
FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)  
UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

|      | MINIMUM QPL EAR MUFFS | AMERICAN OPTICAL 1700 EAR MUFFS | V-51R EAR PLUGS | COMFIT TRIPLE FLANGE EAR PLUGS | H-133 GROUND COMMUNICATION UNIT |
|------|-----------------------|---------------------------------|-----------------|--------------------------------|---------------------------------|
| 0<   |                       |                                 |                 |                                |                                 |
| 10<  |                       |                                 |                 |                                |                                 |
| 20<  |                       |                                 |                 |                                |                                 |
| 30<  |                       |                                 |                 |                                |                                 |
| 40<  |                       |                                 |                 |                                |                                 |
| 50<  |                       |                                 |                 |                                |                                 |
| 60<  |                       |                                 |                 |                                |                                 |
| 70<  |                       |                                 |                 |                                |                                 |
| 80<  |                       |                                 |                 |                                |                                 |
| 90<  |                       |                                 |                 |                                |                                 |
| 100< |                       |                                 |                 |                                |                                 |
| 110< |                       |                                 |                 |                                |                                 |
| 120< |                       |                                 |                 |                                |                                 |
| 130< |                       |                                 |                 |                                |                                 |
| 140< |                       |                                 |                 |                                |                                 |
| 150< |                       |                                 |                 |                                |                                 |
| 160< |                       |                                 |                 |                                |                                 |
| 170< |                       |                                 |                 |                                |                                 |
| 180< |                       |                                 |                 |                                |                                 |

DISTANCE FROM SOURCE (METERS)

| 100 | 1.5 | 2 | 3 | 4   | 5 | 6 | 8 | 1 | 1.5 | 2 | 3 | 4   | 5 | 6 | 8 |   |   |   |
|-----|-----|---|---|-----|---|---|---|---|-----|---|---|-----|---|---|---|---|---|---|
| 5   | 6   | 8 | 1 | 1.5 | 2 | 3 | 4 | 5 | 6   | 8 | 1 | 1.5 | 2 | 3 | 4 | 5 | 6 | 8 |





```
(-----)
( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION:
(      10          EQUAL TIME CONTOURS (MINUTES) ) ) OMEGA 1.4
(-----)
( NOISE SOURCE/SUBJECT: ) METEOROLOGY: ) TEST 75-002-047
( ( OPERATION: ) TEMP = 15 C ) RUN 02
( T-38A AIRCRAFT ) 70% RPM ) 20 OCT 75
( J85-GE-5A ENGINE ) BOTH ENGINES ) )
( FAR FIELD NOISE ) FREE FLOW ) PAGE 8
(-----)
```

PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY  
AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 75 METERS  
FOR ALL ANGLES EVALUATED (INDICATED BY  $\angle$  AT LEFT)  
UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

MINIMUM QPL EAR MUFFS  
AMERICAN OPTICAL 1700 EAR MUFFS  
V-51R EAR PLUGS  
COMFIT TRIPLE FLANGE EAR PLUGS  
H-133 GROUND COMMUNICATION UNIT

DISTANCE FROM SOURCE (METERS)





PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY  
AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 75 METERS  
FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)  
UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

MINIMUM QPL EAR MUFFS  
AMERICAN OPTICAL 1700 EAR MUFFS  
V-51R EAR PLUGS  
COMFIT TRIPLE FLANGE EAR PLUGS  
H-133 GROUND COMMUNICATION UNIT

FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)

UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

H-133 GROUND COMMUNICATION UNIT

5 6 8 1 1.5 2 3 4 5 6 8  
100 1000

DISTANCE FROM SOURCE (METERS)



AD-A048 834

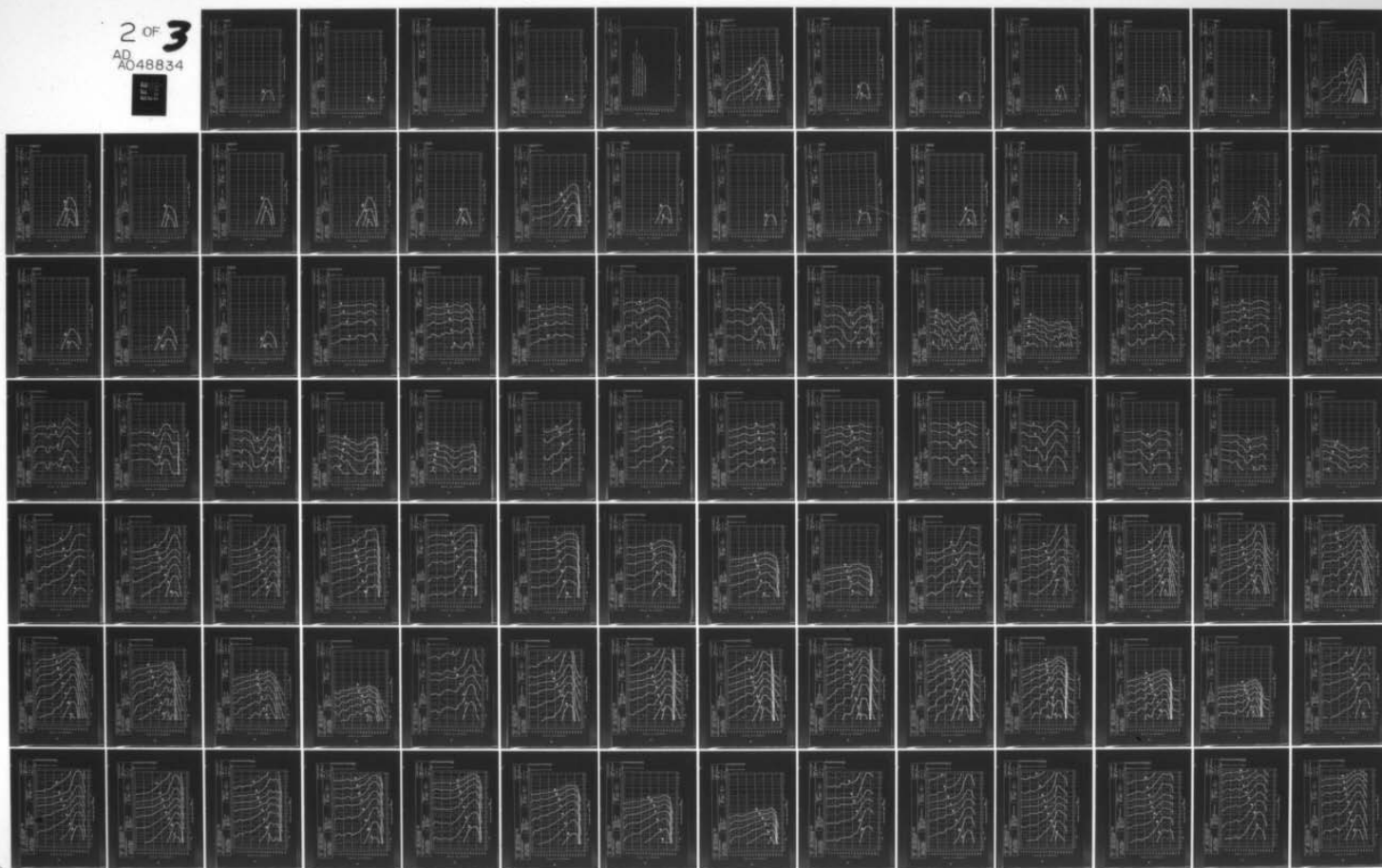
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FEB 77 R G POWELL

UNCLASSIFIED

AMRL-TR-75-50-VOL-74

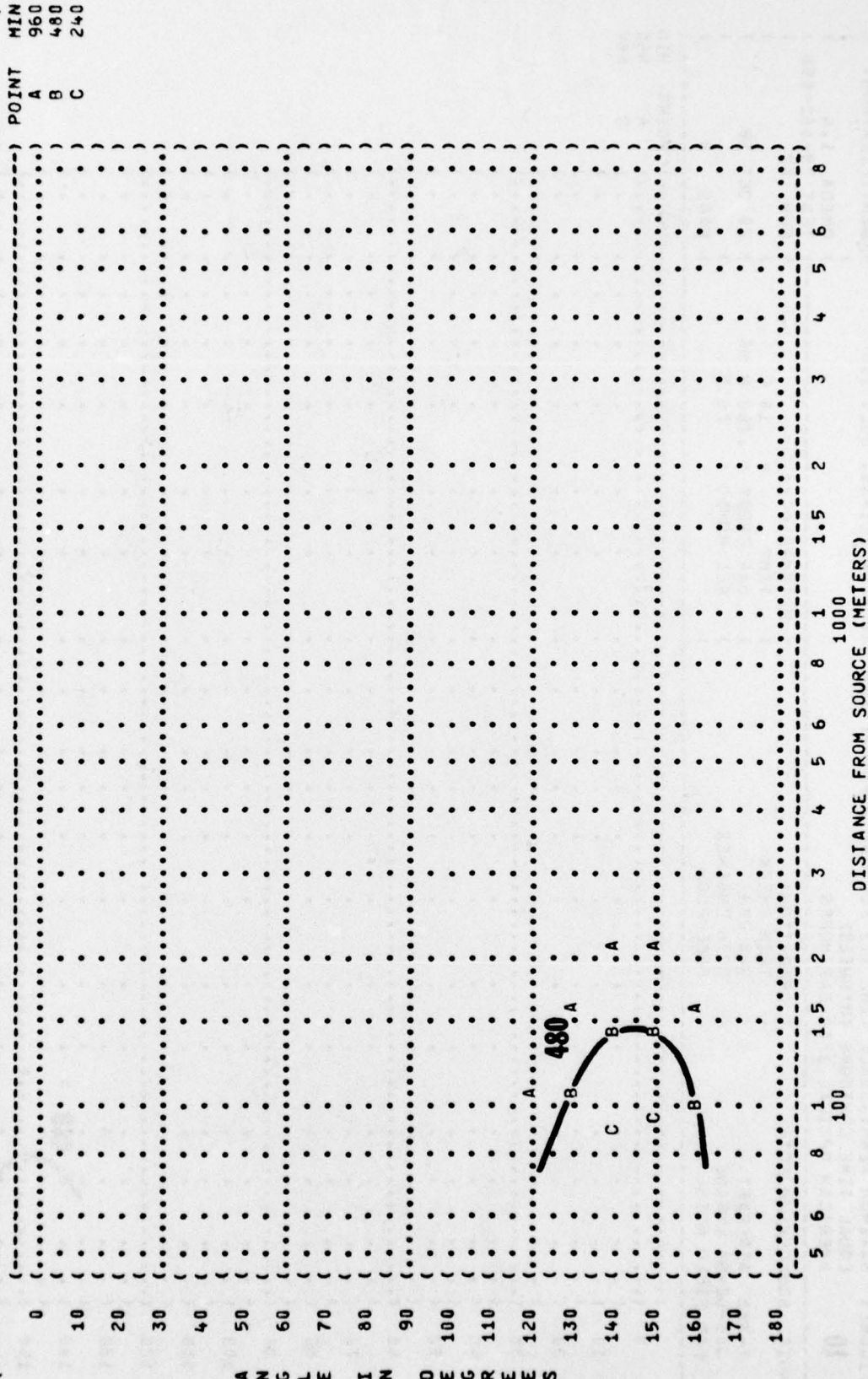
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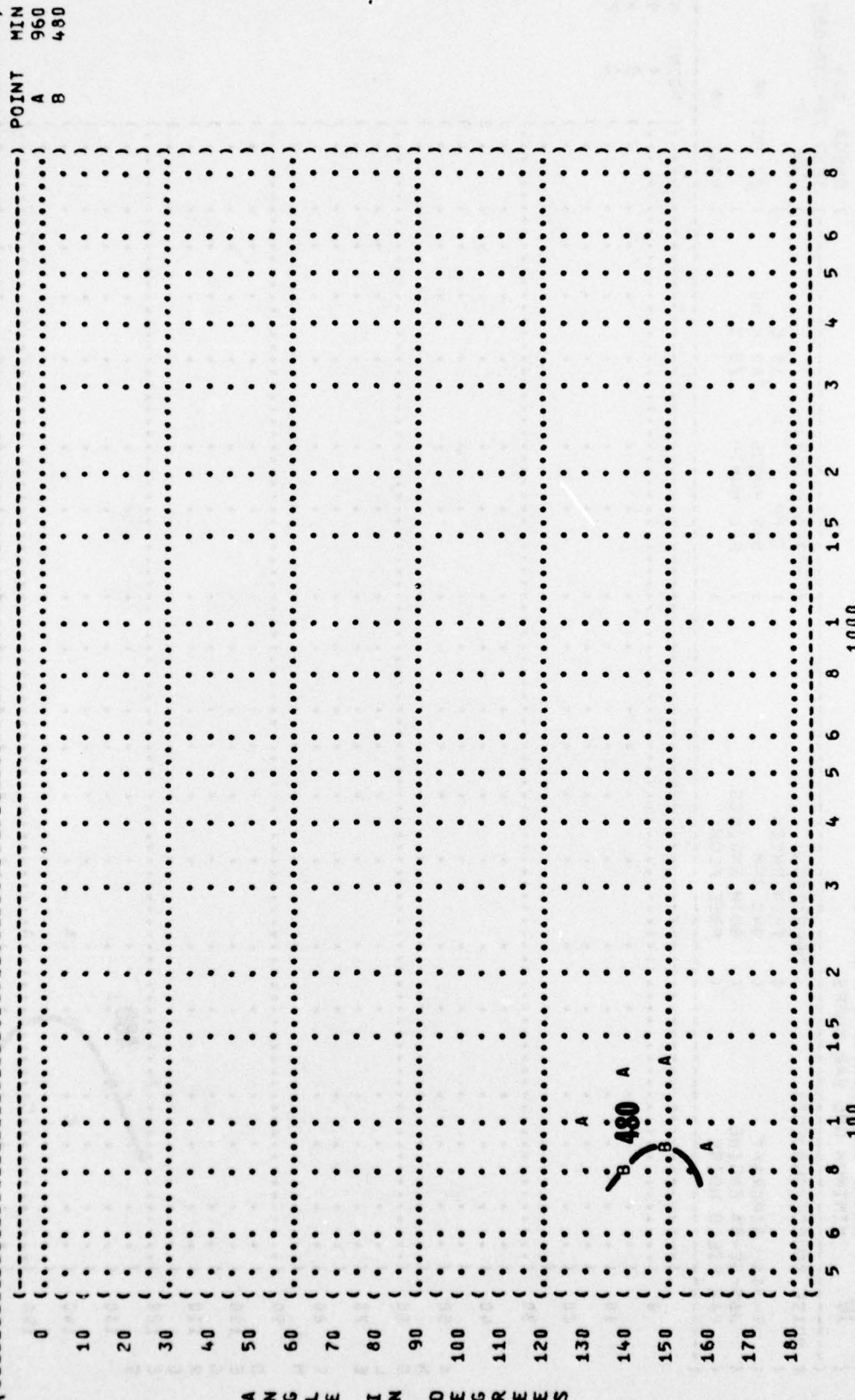




( ( FIGURE: MAXIMUM PERMISSIBLE TIME (1) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( ( EQUAL TIME CONTOURS (MINUTES) ) )  
 ( ( MINIMUM QPL EAR MUFFS ) )  
 ( ( NOISE SOURCE/SUBJECT: ) )  
 ( ( T-38A AIRCRAFT ) )  
 ( ( J85-GE-5A ENGINE ) )  
 ( ( FAR FIELD NOISE ) )  
 ( ( OPERATION: ) )  
 ( ( TRIM CHECK ) )  
 ( ( 94% RPM ) )  
 ( ( BOTH ENGINES ) )  
 ( ( FREE FLOW ) )  
 ( ( METEOROLOGY: ) )  
 ( ( TEMP = 15 C ) )  
 ( ( BAR PRESS = .760 M HG ) )  
 ( ( REL HUMID = 70 % ) )  
 ( ( PAGE 8 ) )  
 ( ( POINT MIN ) )  
 ( ( A 960 ) )  
 ( ( B 480 ) )  
 ( ( C 240 ) )



( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( 10 EQUAL TIME CONTOURS (MINUTES) ) )  
 ( AMERICAN OPTICAL 1700 EAR MUFFS ) )  
 ( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )  
 ( T-38A AIRCRAFT ) OPERATION: )  
 ( J85-GE-5A ENGINE ) TRIM CHECK )  
 ( FAR FIELD NOISE ) 94% RPM )  
 ( ) BOTH ENGINES )  
 ( ) FREE FLOW )  
 ( ) TEMP = 15 C )  
 ( ) BAR PRESS = .760 M HG )  
 ( ) REL HUMID = 70 % )  
 ( ) PAGE 9 )  
 ( ) POINT MIN  
 ( ) A 960  
 ( ) B 480



DISTANCE FROM SOURCE (METERS)





FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

IDENTIFICATION:

10

EQUAL TIME CONTOURS (MINUTES)

COMFIT TRIPLE FLANGE EAR PLUGS

NOISE SOURCE/SUBJECT:

OPERATION:

TRIM CHECK

94% RPM

BOTH ENGINES

FREE FLOW

METEOROLOGY:

TEMP = 15 C

BAR PRESS = .760 M HG

REL HUMID = 70 %

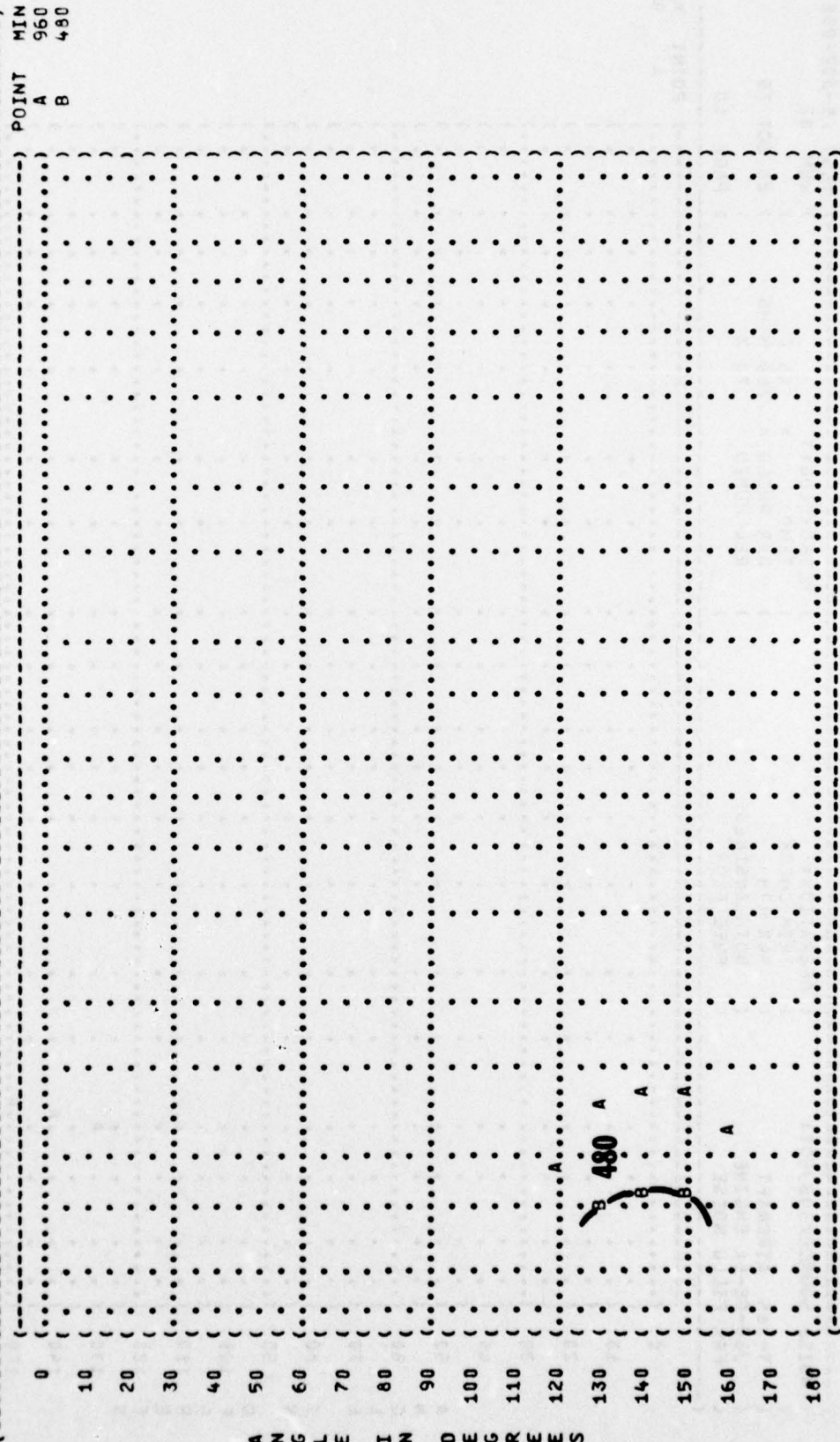
20 OCT 75

PAGE 11

OMEGA 1.4

TEST 75-002-056

RUN 02



ANGLE IN DEGREES

DISTANCE FROM SOURCE (METERS)

FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

IDENTIFICATION:

10

NOISE SOURCE/SUBJECT: OPERATION: METEOROLOGY:

T-38A AIRCRAFT TRIM CHECK TEMP = 15 C

J85-GE-5A ENGINE 94% RPM BAR PRESS = .760 M HG

FAR FIELD NOISE BOTH ENGINES REL HUMID = 70 %

FREE FLOW

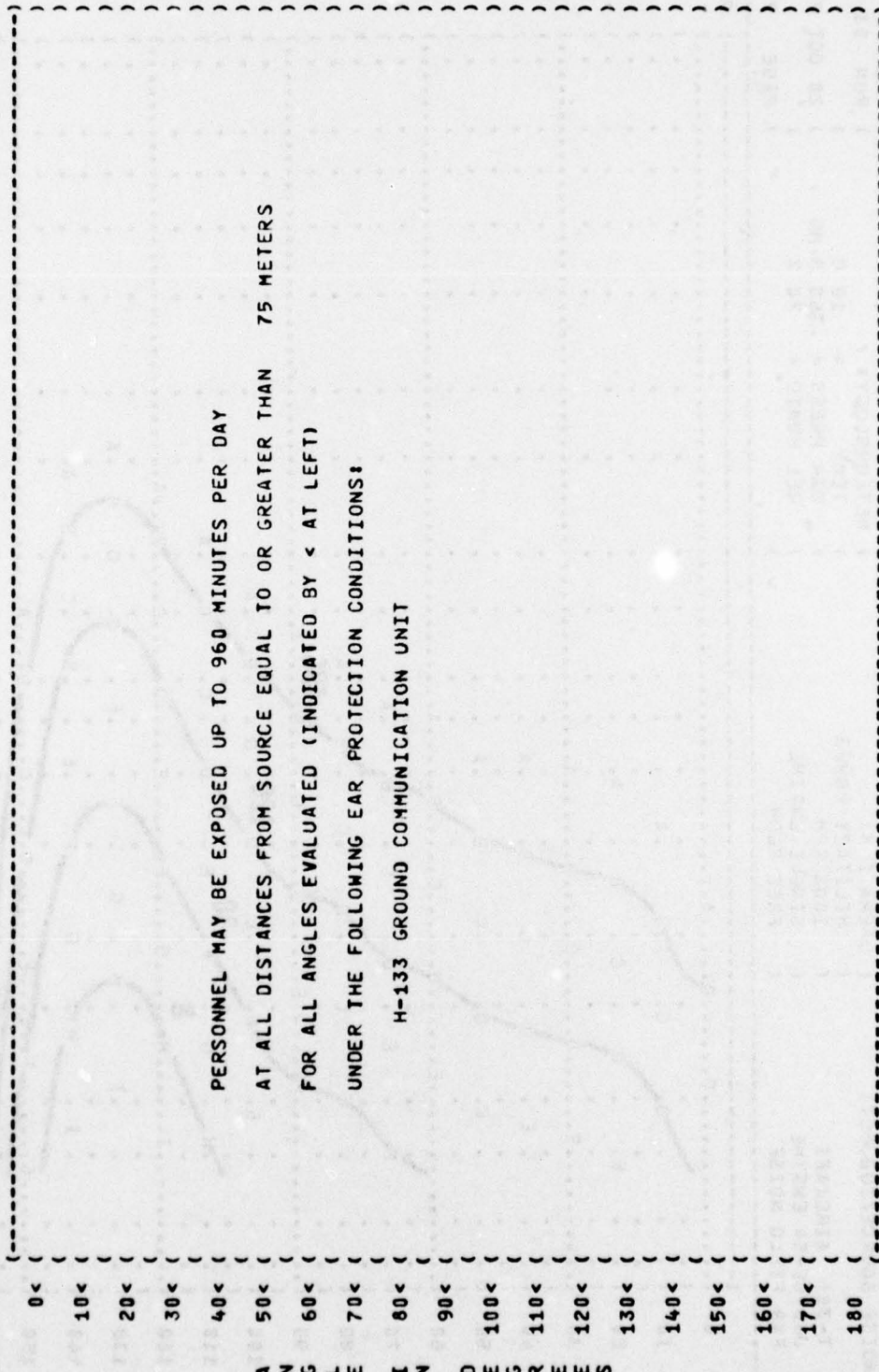
OMEGA 1.4

TEST 75-002-056

RUN 02

20 OCT 75

PAGE 12



PERSONNEL MAY BE EXPOSED UP TO 960 MINUTES PER DAY

AT ALL DISTANCES FROM SOURCE EQUAL TO OR GREATER THAN 75 METERS

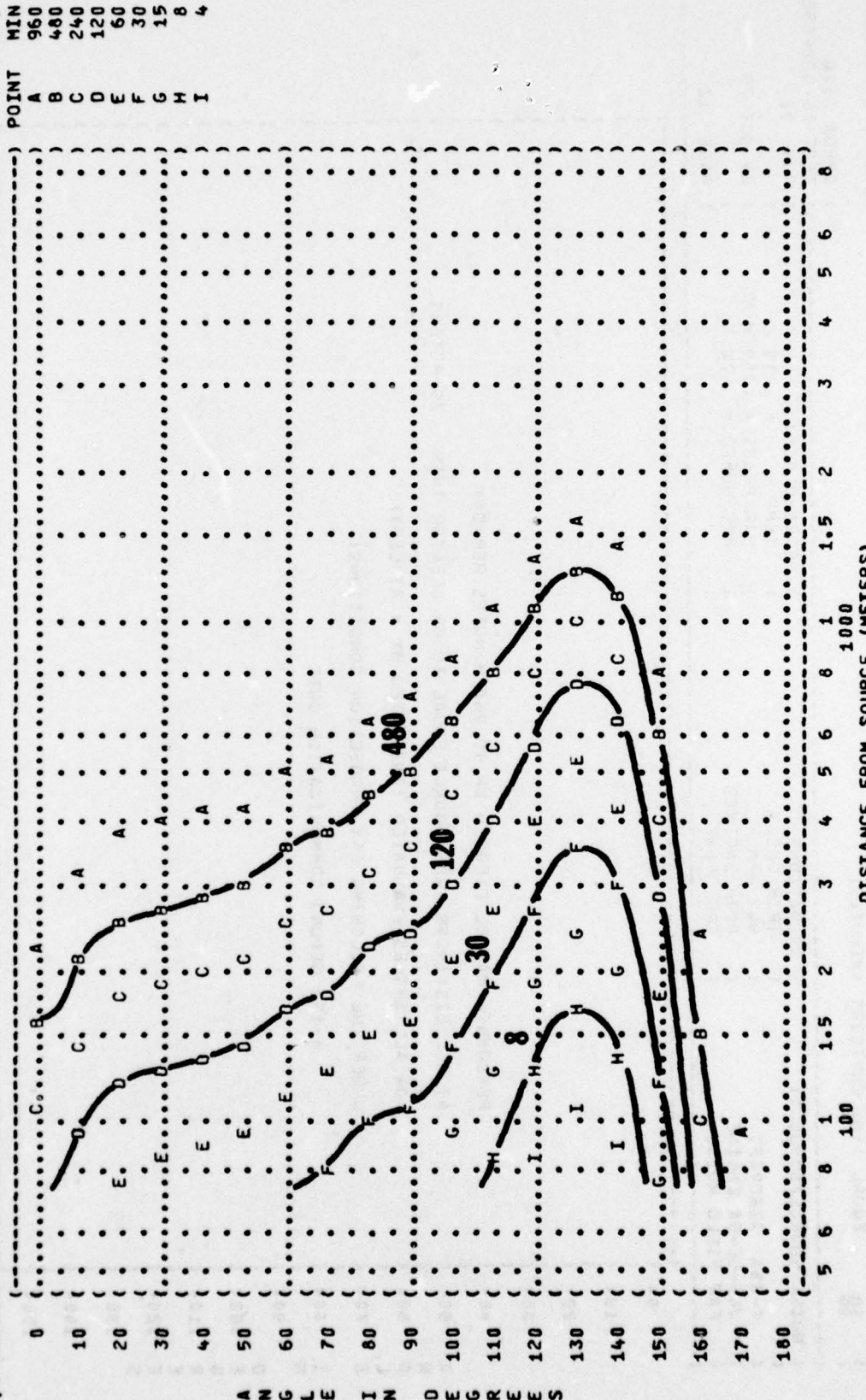
FOR ALL ANGLES EVALUATED (INDICATED BY < AT LEFT)

UNDER THE FOLLOWING EAR PROTECTION CONDITIONS:

H-133 GROUND COMMUNICATION UNIT

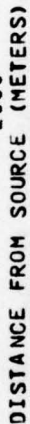
DISTANCE FROM SOURCE (METERS)

```
(-----)
( FIGURE: MAXIMUM PERMISSIBLE TIME {T} FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION:
( EQUAL TIME CONTOURS (MINUTES) ) )
( 10 NO PROTECTION ) OMEGA 1.4
( ) TEST 75-002-047
( ) RUN 03
( NOISE SOURCE/SUBJECT: ) METEOROLOGY:
( ) OPERATION: ) TEMP = 15 C
( ) MILITARY POWER ) BAR PRESS = .760 M HG
( ) 100% RPM ) REL HUMID = 70 %
( ) SINGLE ENGINE )
( ) FREE FLOW )
( T-38A AIRCRAFT )
( J85-GE-5A ENGINE )
( FAR FIELD NOISE ) PAGE 7
(-----)
```





| POINT | MIN |
|-------|-----|
| A     | 960 |
| B     | 480 |
| C     | 240 |
| D     | 120 |



420 JW HZ 050455N



|   |     |
|---|-----|
| A | 960 |
| B | 480 |
| C | 240 |
| D | 120 |



1030



( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( ( 10 EQUAL TIME CONTOURS (MINUTES) ) )  
 ( COMFIT TRIPLE FLANGE EAR PLUGS ) OMEGA 1.4 )  
 ( NOISE SOURCE/SUBJECT: ) TEST 75-002-047 )  
 ( ( OPERATION: ) )  
 ( ( MILITARY POWER ) )  
 ( ( 100% RPM ) )  
 ( ( SINGLE ENGINE ) )  
 ( ( FREE FLOW ) )  
 ( T-38A AIRCRAFT ) METEOROLOGY: )  
 ( J85-GE-5A ENGINE ) TEMP = 15 C )  
 ( FAR FIELD NOISE ) BAR PRESS = .760 M HG )  
 ( ) REL HUMID = 70 % )  
 ( ) PAGE 11 )  
 ( ) POINT MIN )  
 ( ) A 960 )  
 ( ) B 480 )  
 ( ) C 240 )  
 ( ) D 120 )

A N G L E I M D E G R E E S

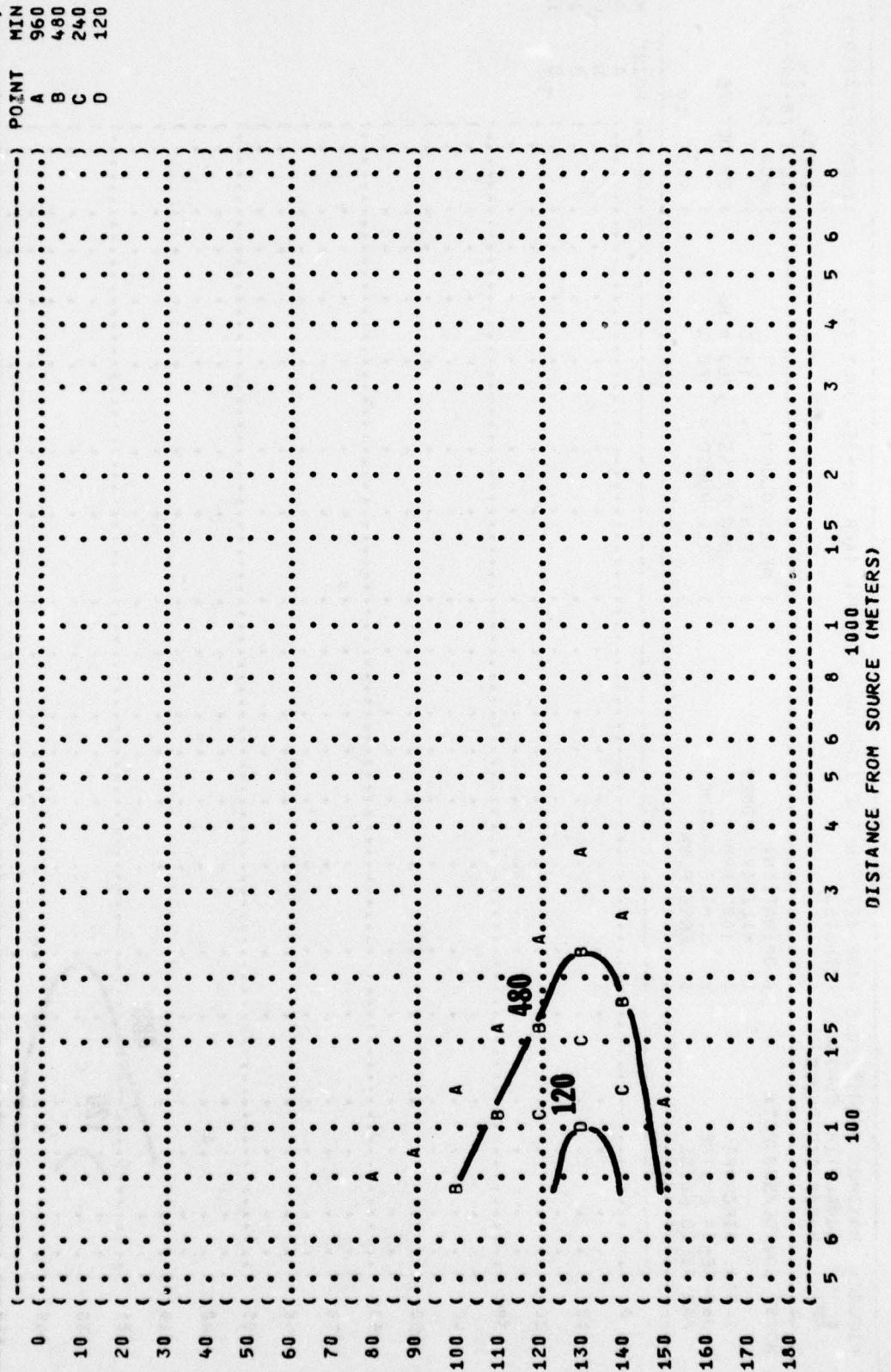




FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

IDENTIFICATION: )

OMEGA 1.4

TEST 75-002-047

RUN 04

20 OCT 75

PAGE 7

NOISE SOURCE/SUBJECT: )

OPERATION: )

MAXIMUM POWER )

100% RPM AND AFTERBURNER )

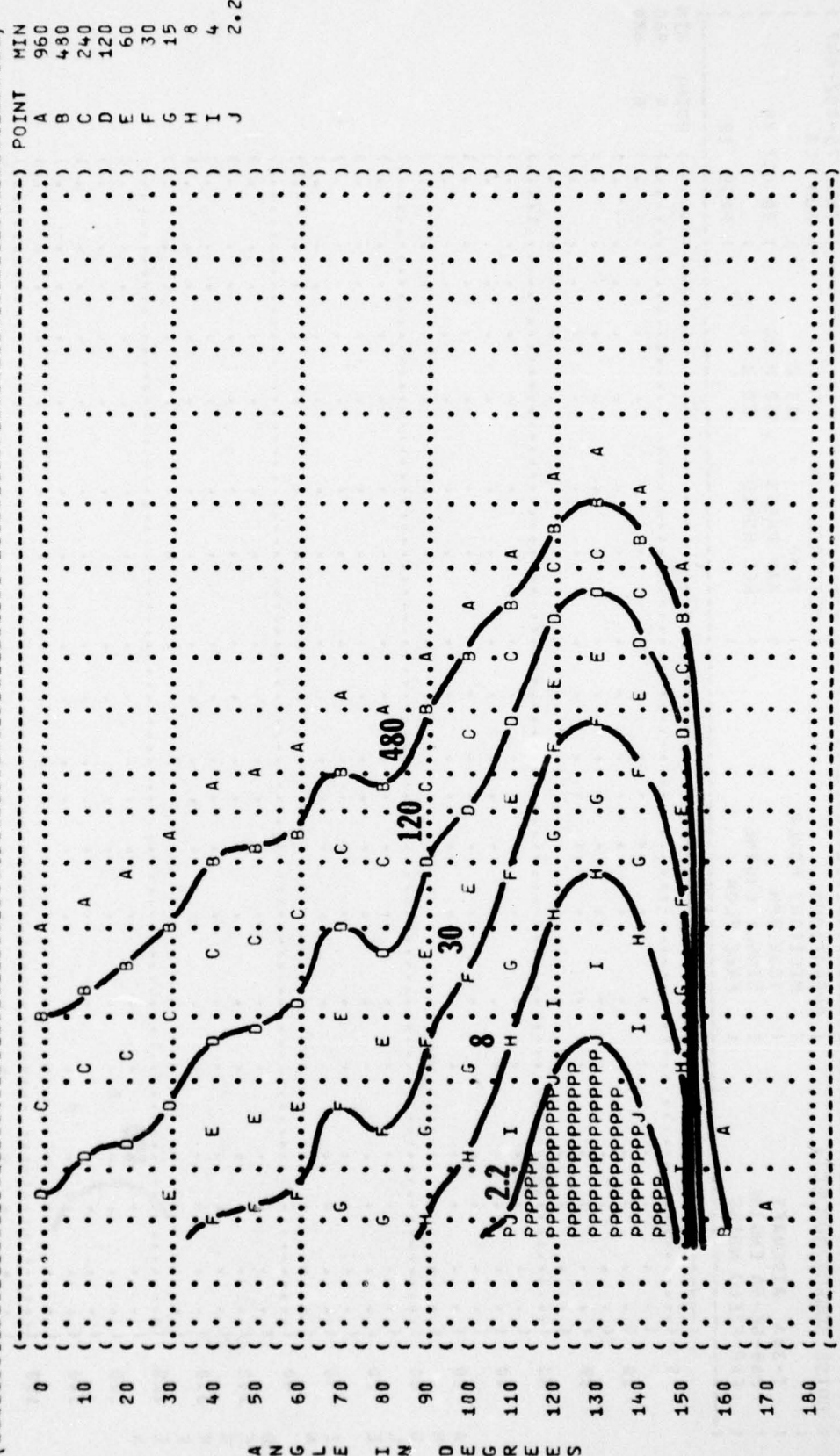
TEMP = 15 C

SINGLE ENGINE )

BAR PRESS = .760 M HG

FREE FLOW )

REL HUMID = 70 %



POINT MIN

A 960

B 480

C 240

D 120

E 60

F 30

G 15

H 8

I 4

J 2.2

DISTANCE FROM SOURCE (METERS)

5 6 8 1 1.5 2 3 4 5 6 8

100

1000

P ADDITIONAL EAR PROTECTION REQUIRED.





( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( 10 ) EQUAL TIME CONTOURS (MINUTES) )  
 ( AMERICAN OPTICAL 1700 EAR MUFFS )  
 ( ) OMEGA 1.4 )  
 ( ) TEST 75-002-047 )  
 ( ) RUN 04 )  
 ( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )  
 ( ) OPERATION: ) TEMP = 15 C )  
 ( ) MAXIMUM POWER ) BAR PRESS = .760 M HG )  
 ( T-38A AIRCRAFT ) 100% RPM AND AFTERBURNER ) REL HUMID = 70 % )  
 ( J85-GE-5A ENGINE ) SINGLE ENGINE )  
 ( FAR FIELD NOISE ) FREE FLOW )  
 ( ) PAGE 9 )

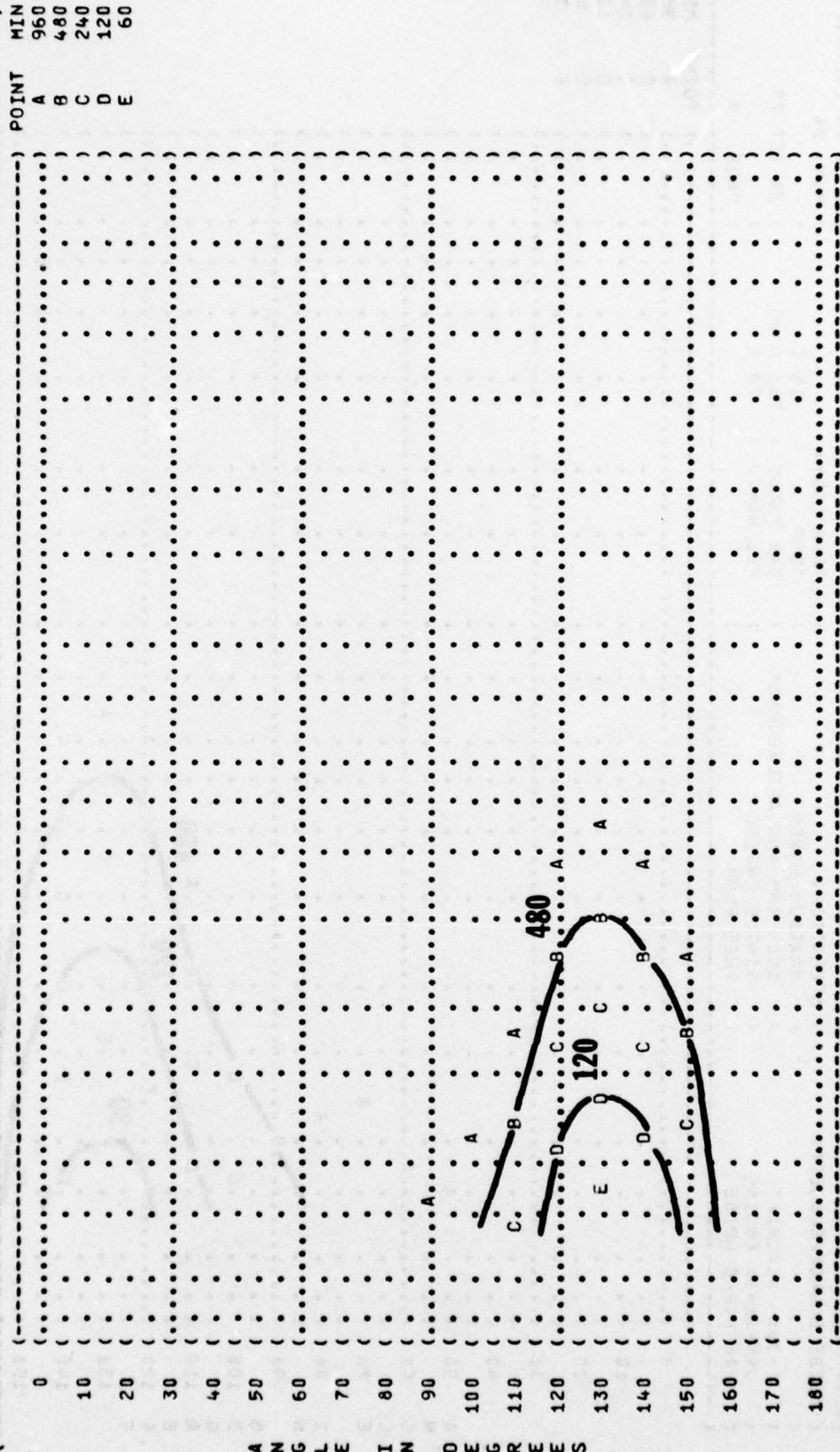


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) IDENTIFICATION:  
 10 EQUAL TIME CONTOURS (MINUTES)  
 V-51R EAR PLUGS

NOISE SOURCE/SUBJECT: OPERATION: METEOROLOGY: POINT MIN  
 T-38A AIRCRAFT MAXIMUM POWER TEMP = 15 C A 960  
 J85-GE-5A ENGINE 100% RPM AND AFTERBURNER BAR PRESS = .760 M HG B 480  
 FAR FIELD NOISE SINGLE ENGINE REL HUMID = 70 % C 240  
 FREE FLOW D 120  
 PAGE 10 E 60  
 F 30

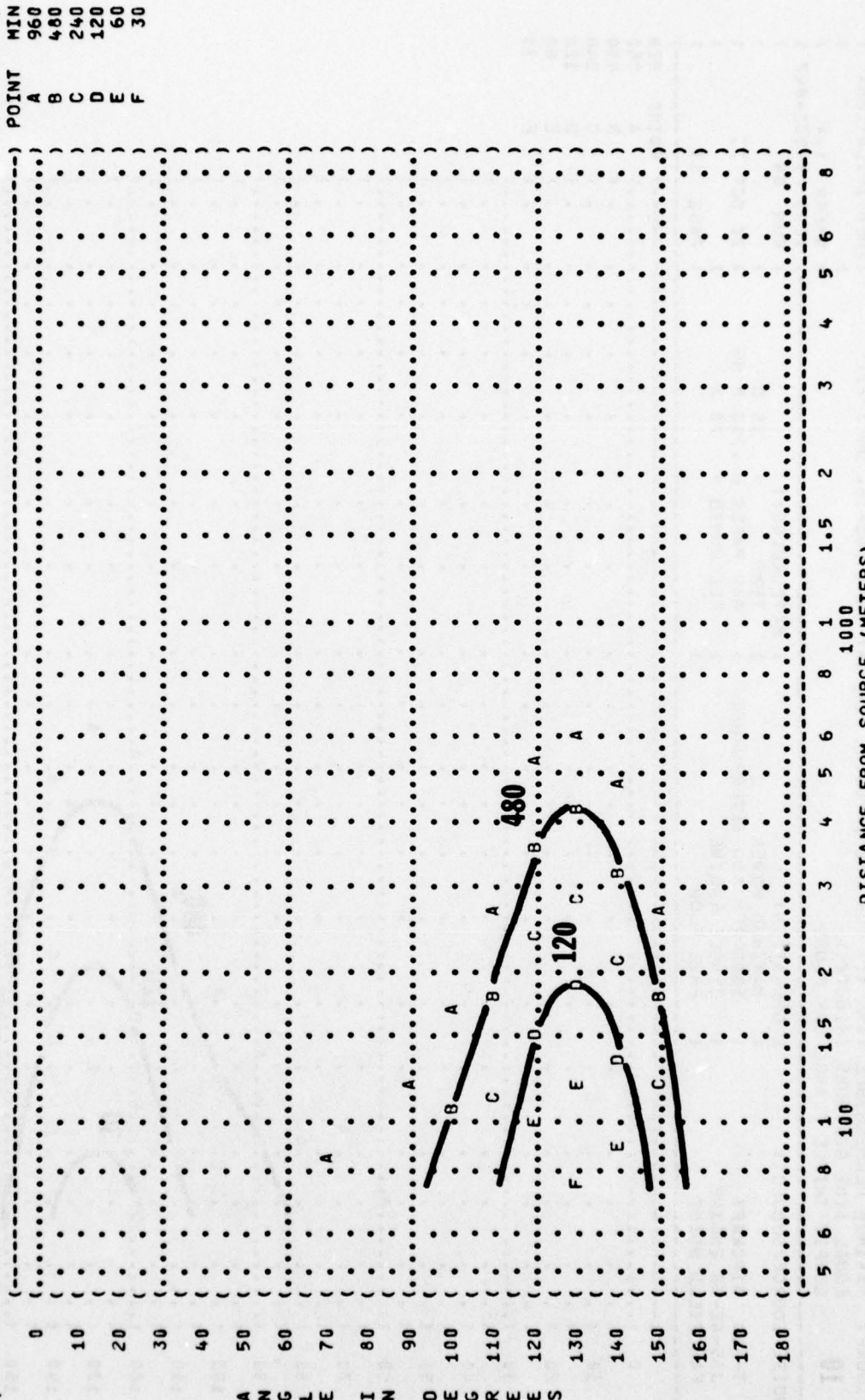




FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73)

IDENTIFICATION:

10

OMEGA 1.4

TEST 75-002-047

RUN 04

20 OCT 75

PAGE 11

NOISE SOURCE/SUBJECT:

OPERATION:

MAXIMUM POWER

TEMP = 15 C

100% RPM AND AFTERBURNER

BAR PRESS = .760 M HG

SINGLE ENGINE

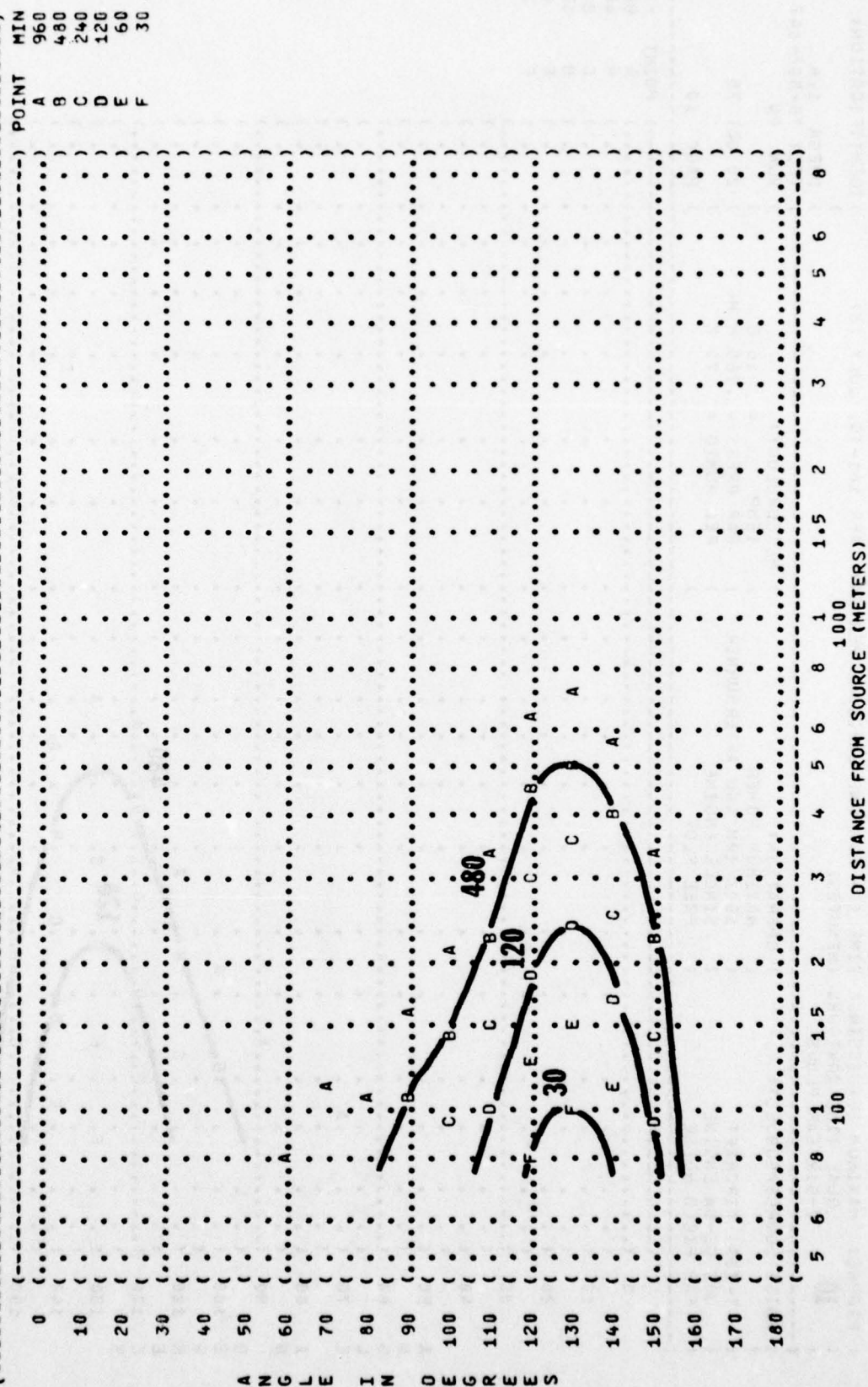
REL HUMID = 70 %

FREE FLOW

T-38A AIRCRAFT

J85-GE-5A ENGINE

FAR FIELD NOISE



|    | ( | - | - | - | - | - | ) | MIN | POINT |
|----|---|---|---|---|---|---|---|-----|-------|
| 0  | ( | . | . | . | . | . | ) | A   | 960   |
|    | ( | . | . | . | . | . | ) | B   | 480   |
| 10 | ( | . | . | . | . | . | ) | C   | 240   |
|    | ( | . | . | . | . | . | ) | D   | 120   |

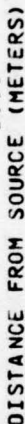
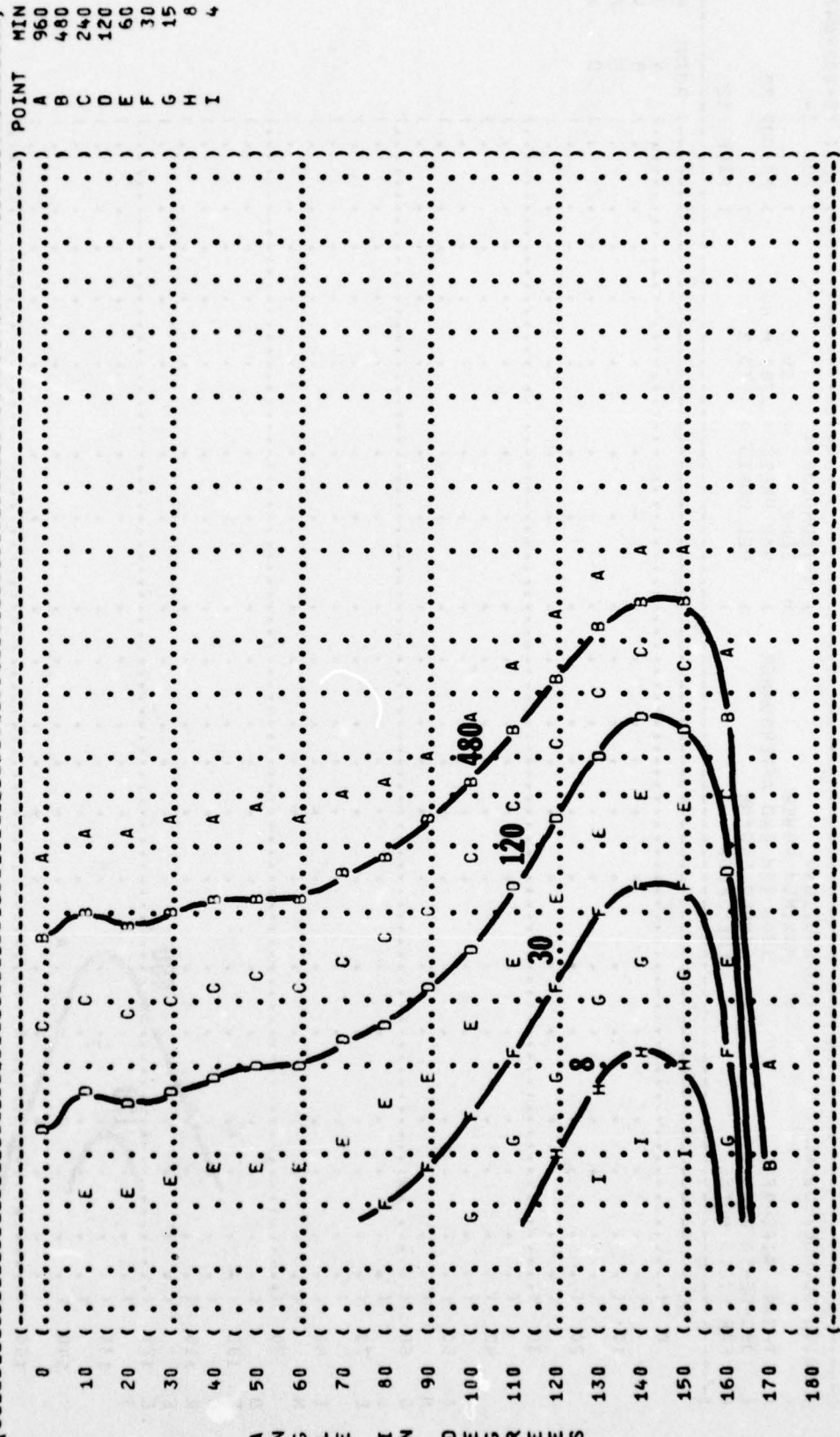
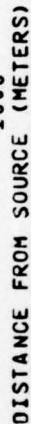


FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) IDENTIFICATION: )  
 ( ) EQUAL TIME CONTOURS (MINUTES) )  
 ( ) NO PROTECTION )  
 ( ) NOISE SOURCE/SUBJECT: )  
 ( ) OPERATION: )  
 ( ) MILITARY POWER )  
 ( ) 100% RPM )  
 ( ) BOTH ENGINES )  
 ( ) FREE FLOW )  
 ( ) METEOROLOGY: )  
 ( ) TEMP = 15 C )  
 ( ) BAR PRESS = .760 M HG )  
 ( ) REL HUMID = 70 % )  
 ( ) PAGE 7 )  
 ( ) TEST 75-002-056 )  
 ( ) RUN 03 )  
 ( ) OMEGA 1.4 )





|    | (-----) | MIN   | POINT |
|----|---------|-------|-------|
| 0  | (.....) | A 960 | )     |
|    | (.....) | B 480 | )     |
| 10 | (.....) | C 240 | )     |
|    | (.....) | D 120 | )     |



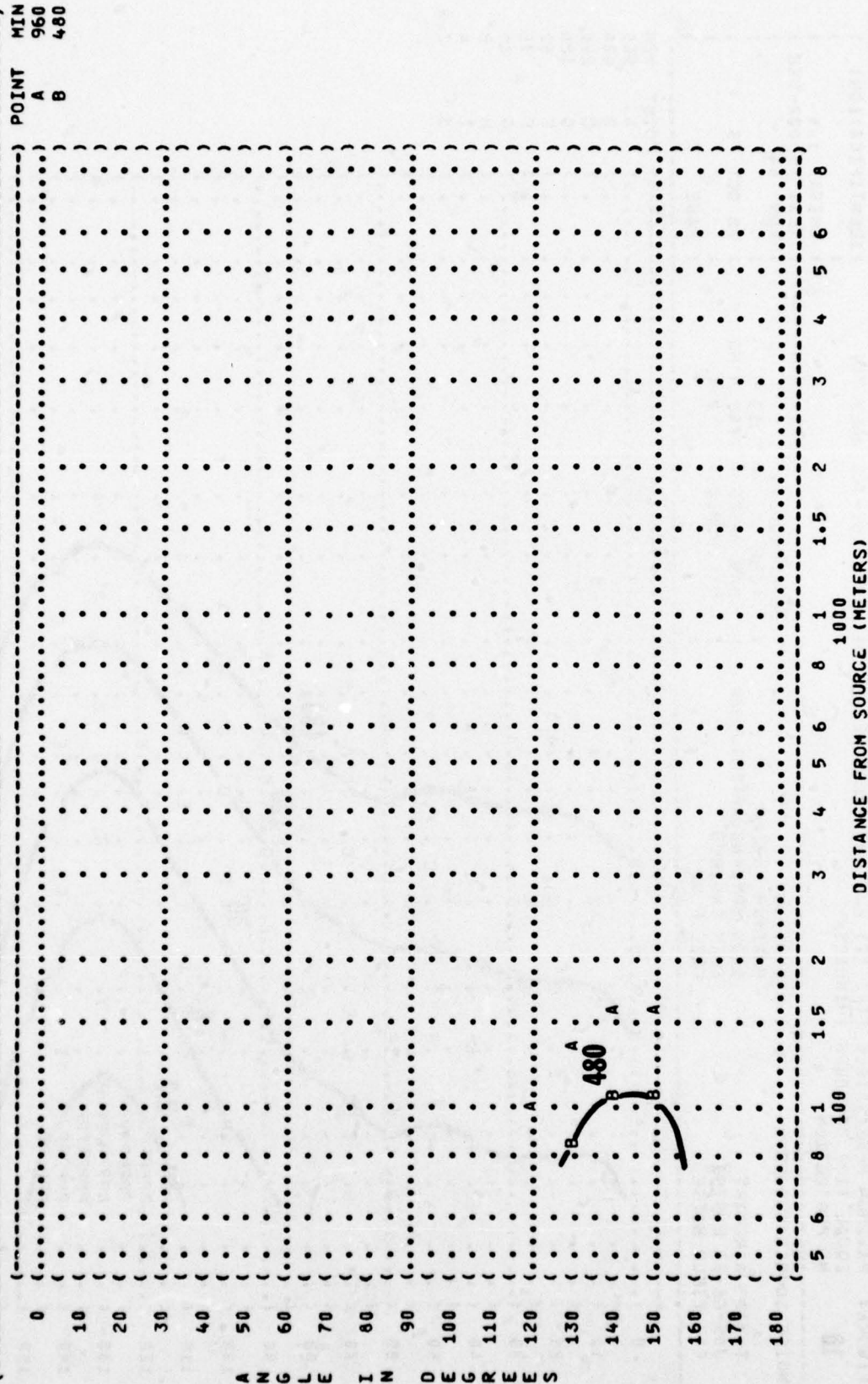


|    | (-----) | MIN | POINT |
|----|---------|-----|-------|
| 0  | (.....) | 960 | A     |
| 10 | (.....) | 480 | B     |
|    | (.....) | 240 | C     |





(-----)  
 ( FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) ) IDENTIFICATION: )  
 ( ( 10 EQUAL TIME CONTOURS (MINUTES) ) )  
 ( ( H-133 GROUND COMMUNICATION UNIT ) )  
 (-----)  
 ( NOISE SOURCE/SUBJECT: ) OPERATION: ) METEOROLOGY: )  
 ( ( T-38A AIRCRAFT ) ( MILITARY POWER ) )  
 ( ( J85-GE-5A ENGINE ) ( 100% RPM ) )  
 ( ( FAR FIELD NOISE ) ( BOTH ENGINES ) )  
 ( ( ) ( FREE FLOW ) )  
 (-----)  
 ( ) TEMP = 15 C )  
 ( ) BAR PRESS = .760 M HG )  
 ( ) REL HUMID = 70 % )  
 ( ) 20 OCT 75 )  
 ( ) PAGE 12 )  
 (-----)  
 ( ) TEST 75-002-056 )  
 ( ) RUN 03 )  
 ( ) OMEGA 1.4 )  
 ( )





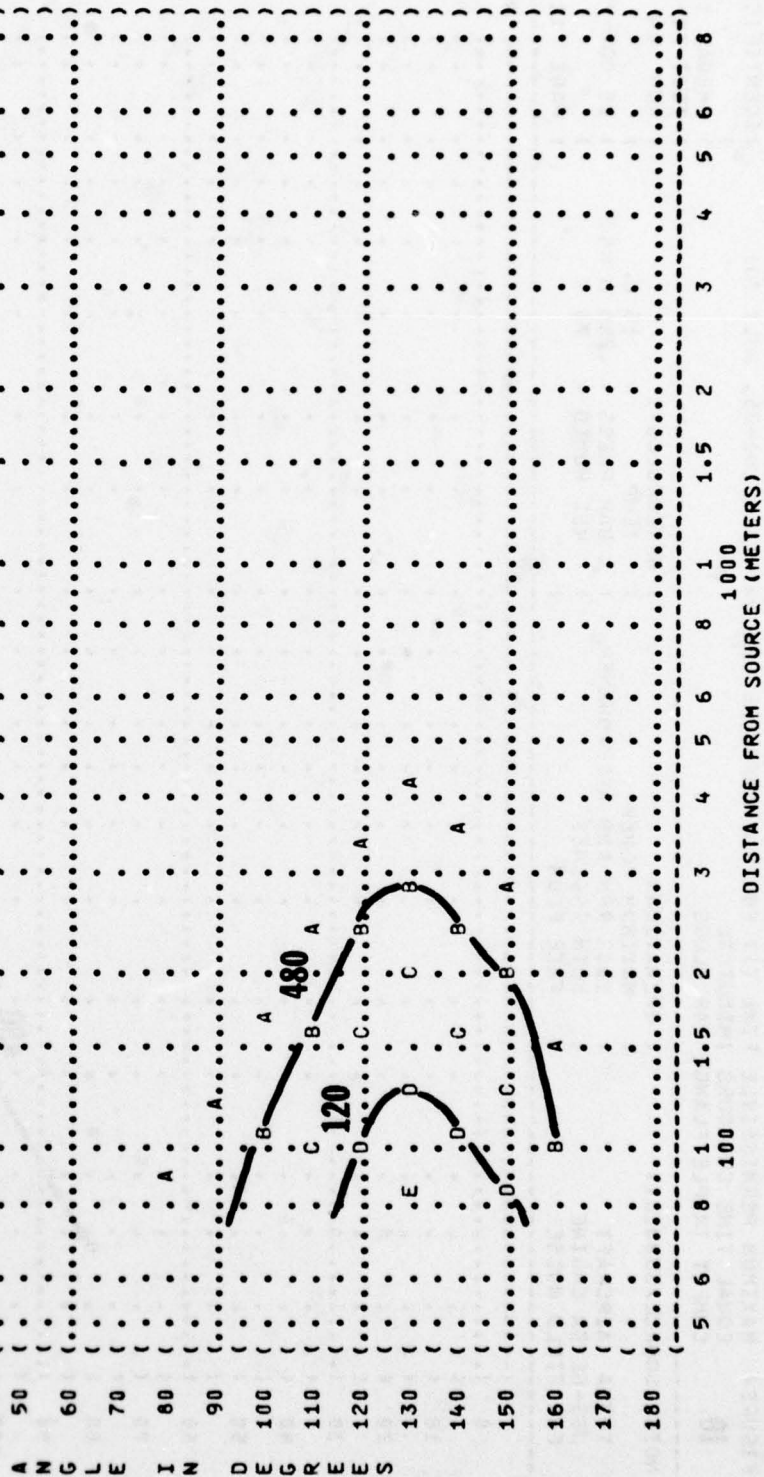




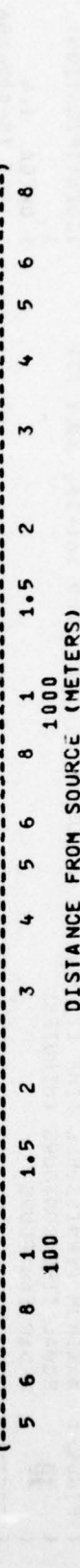


|   |   |                   |                 |
|---|---|-------------------|-----------------|
| ( |   | ) IDENTIFICATION: |                 |
| ( | FIGURE: MAXIMUM PERMISSIBLE TIME (T) FOR ONE EXPOSURE PER DAY (AFR 161-35, JULY 73) |                   |                 |
| ( | EQUAL TIME CONTOURS (MINUTES)   |                   |                 |
| ( | V-SIR EAR PLUGS   |                   |                 |
| { | 10  |                   | OMEGA 1.4       |
| ( |   |                   | TEST 75-002-056 |
| ( | NOISE SOURCE/SUBJECT:   | METEOROLOGY:      | RUN 04          |
| ( | ( OPERATION:  |                   |                 |
| ( | ( MAXIMUM POWER ) TEMP = 15 C   |                   |                 |
| ( | ( 100% RPM AND AFTERBURNER ) BAR PRESS = .760 M HG                                  |                   | 20 OCT 75       |
| ( | ( BOTH ENGINES ) REL HUMID = 70 %   |                   |                 |
| ( | ( FREE FLOW )   |                   | PAGE 10         |
| ( | T-38A AIRCRAFT  |                   |                 |
| ( | J85-GE-5A ENGINE  |                   |                 |
| ( | FAR FIELD NOISE   |                   |                 |

|    | ( | - | - | - | ) | MIN      | POINT |
|----|---|---|---|---|---|----------|-------|
| 0  | ( | . | . | . | . | A<br>960 | )     |
|    | ( | . | . | . | . | B<br>480 | )     |
| 10 | ( | . | . | . | . | C<br>240 | )     |
|    | ( | . | . | . | . | D<br>120 | )     |
| 20 | ( | . | . | . | . | E<br>60  | )     |

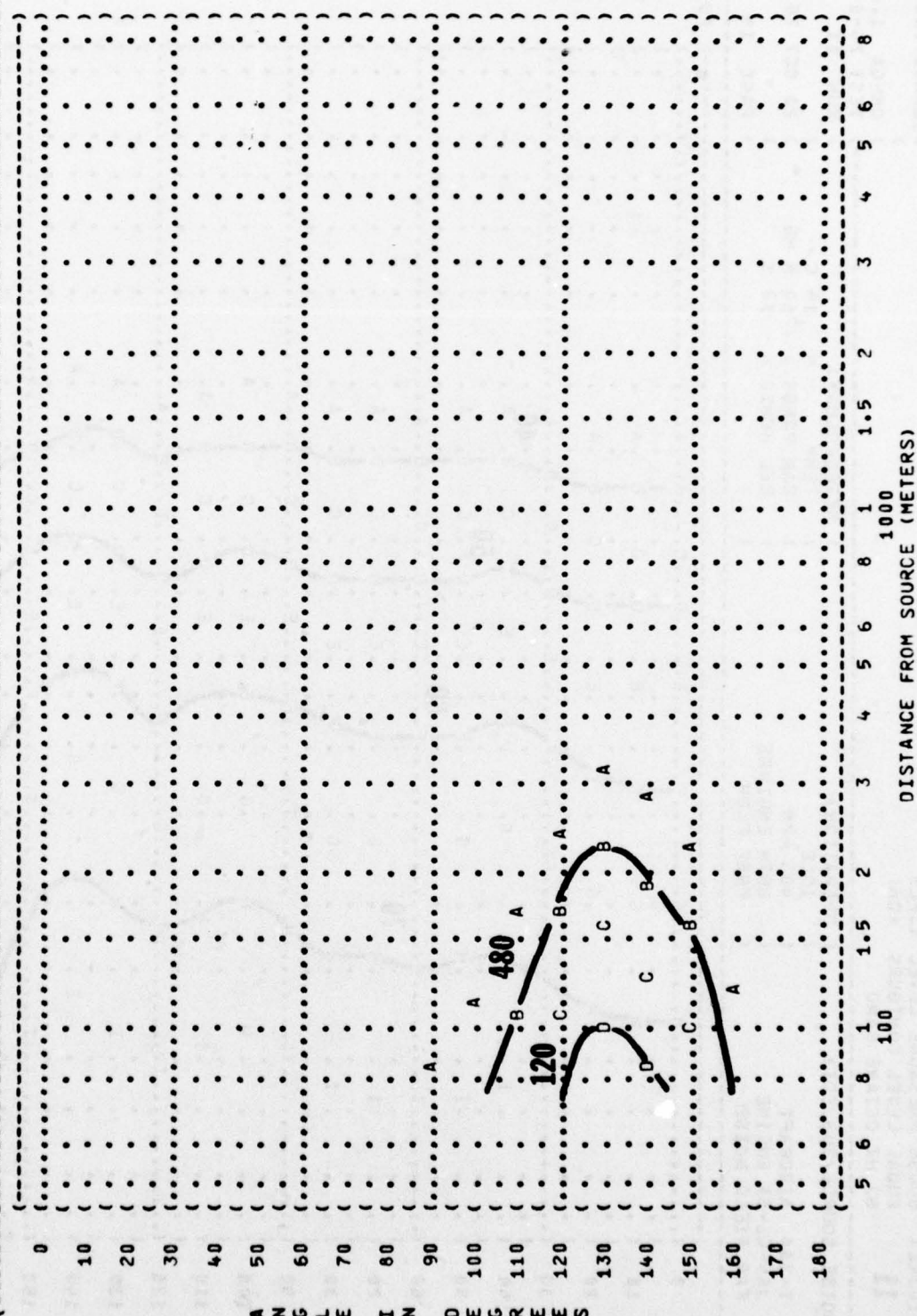






120

| POINT | MIN |
|-------|-----|
| A     | 960 |
| B     | 480 |
| C     | 240 |
| D     | 120 |









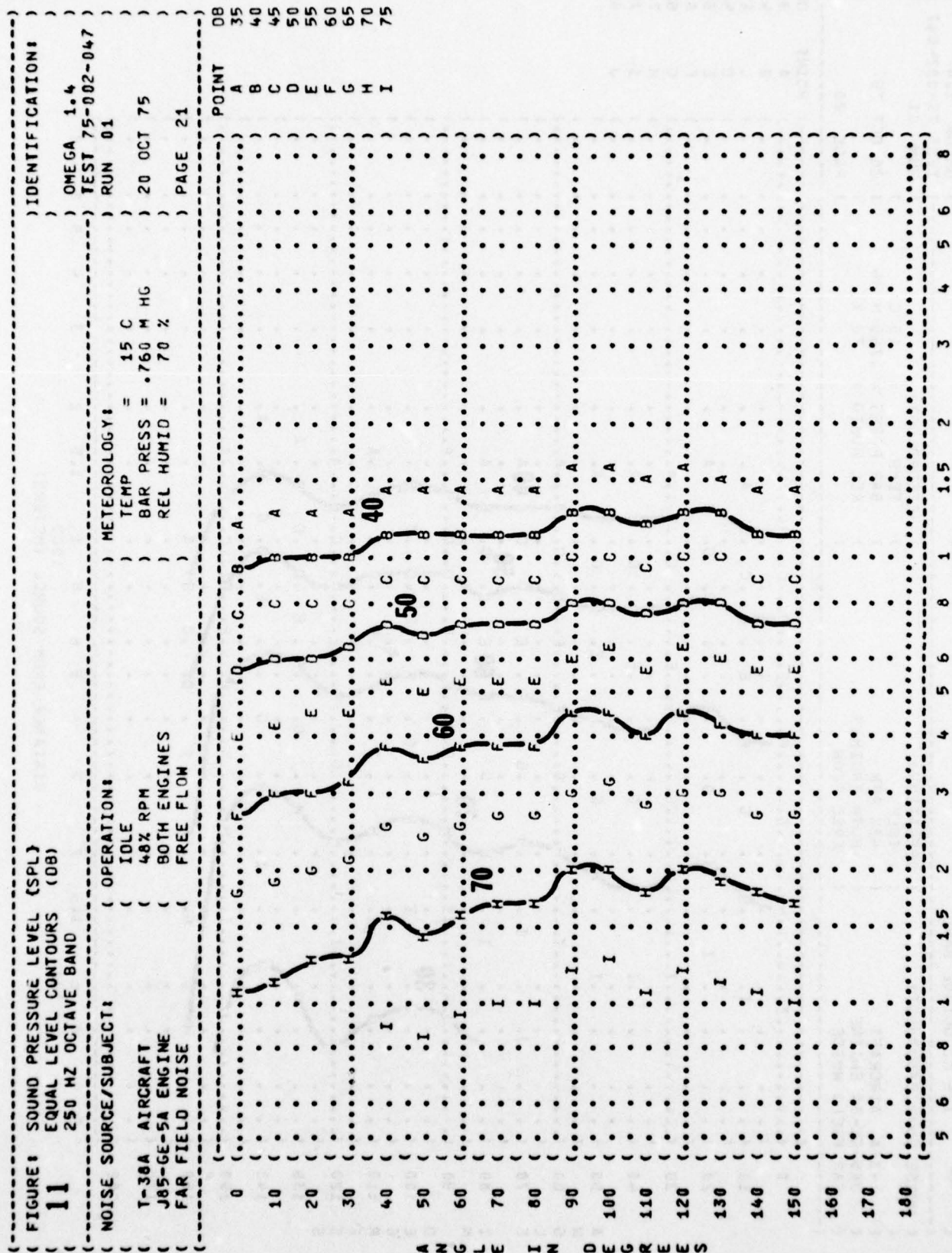
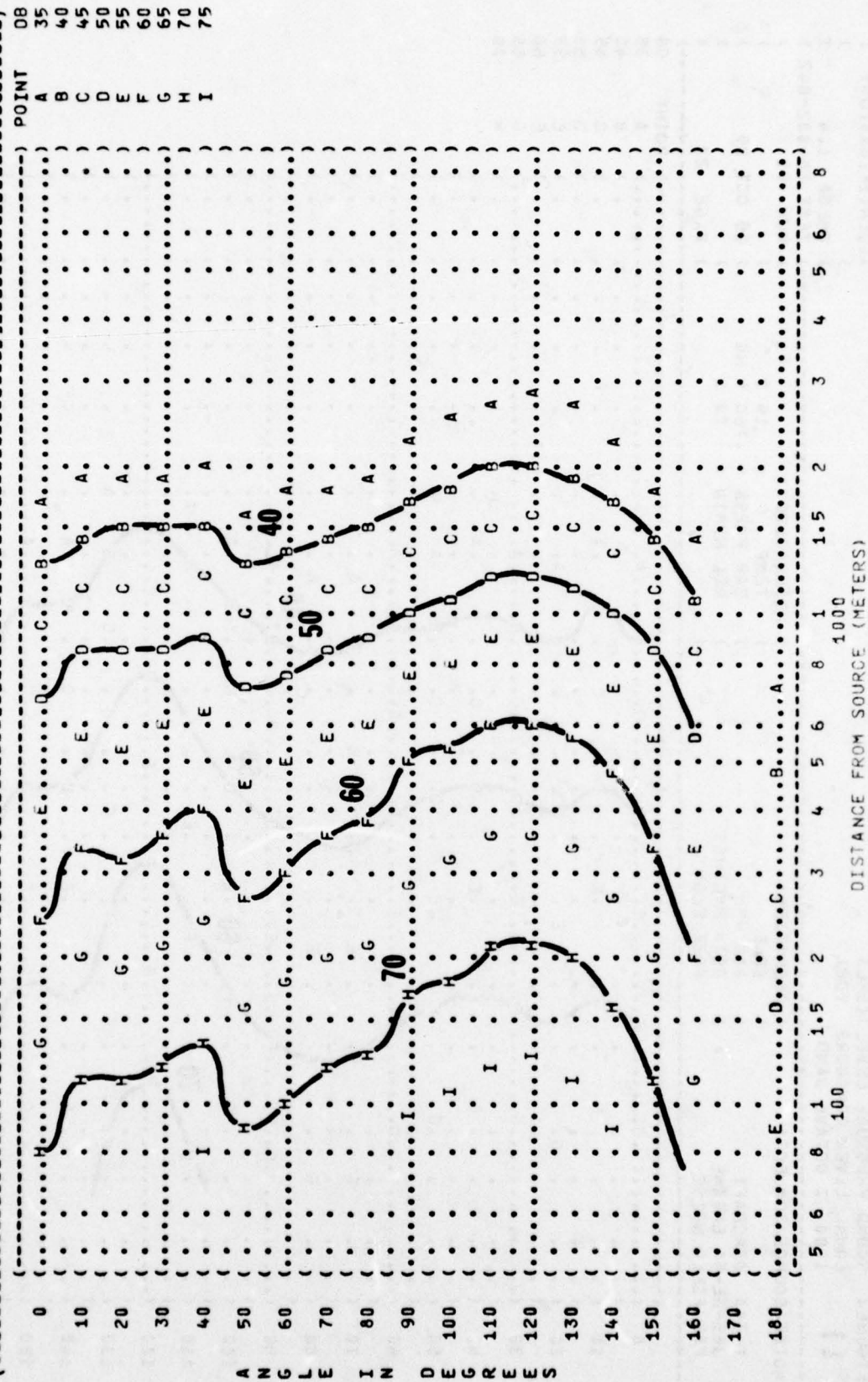


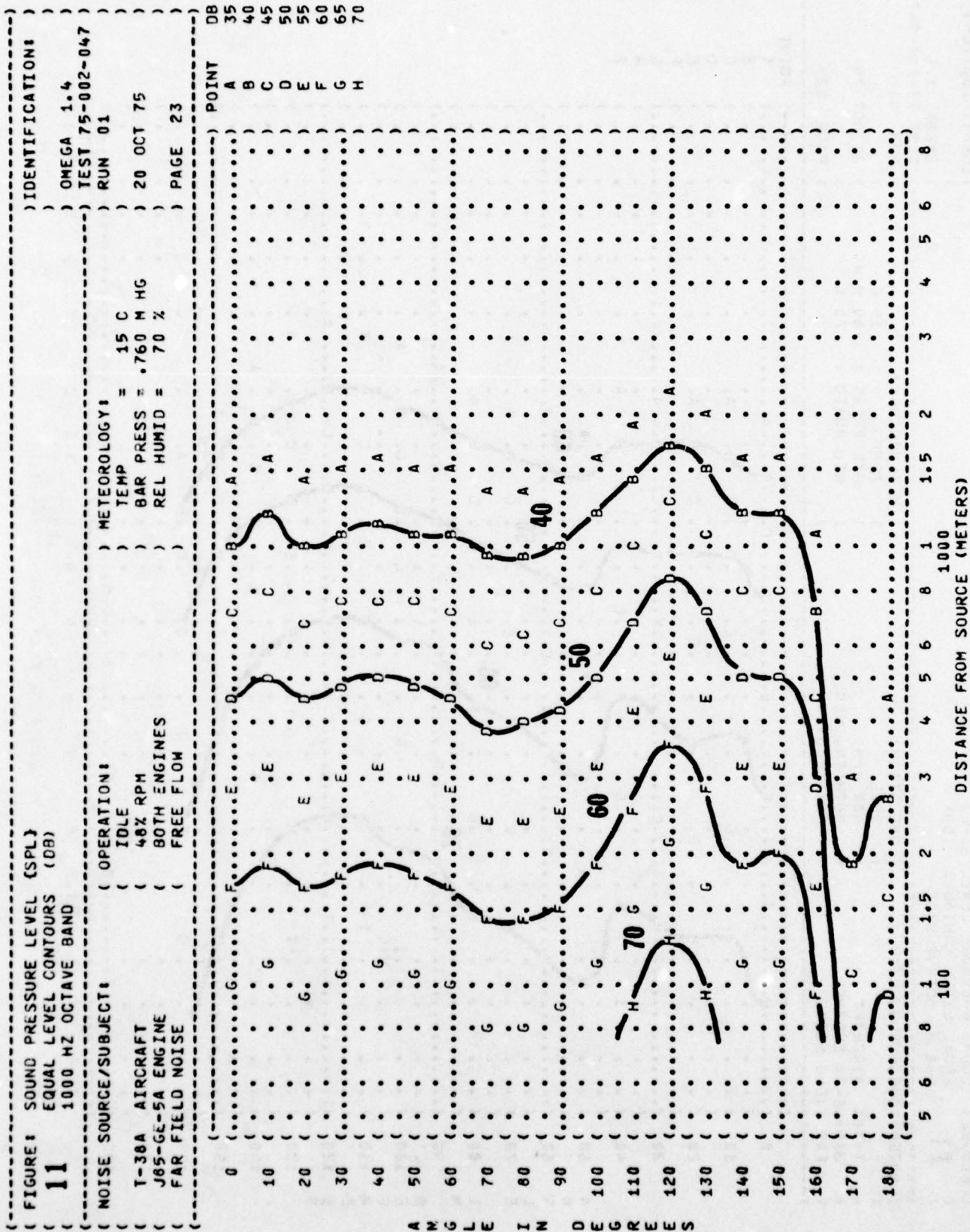
FIGURE: SOUND PRESSURE LEVEL (SPL)  
 11 EQUAL LEVEL CONTOURS (DB)  
 500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: ( ) OPERATION: ( ) METEOROLOGY: ( )  
 ( ) IDLE ( ) TEMP = 15 C  
 ( ) 48% RPM ( ) BAR PRESS = .760 M HG  
 ( ) BOTH ENGINES ( ) REL HUMID = 70 %  
 ( ) FREE FLOW ( ) PAGE 22

IDENTIFICATION: ( )  
 ( )  
 ( ) OMEGA 1.4  
 ( ) TEST 75-002-047  
 ( ) RUN 01  
 ( ) 20 OCT 75







IDENTIFICATION:  
OMEGA 1.4

**OMEGA 1.4**

METEOROLOGY:

TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

**INT**

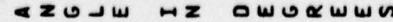
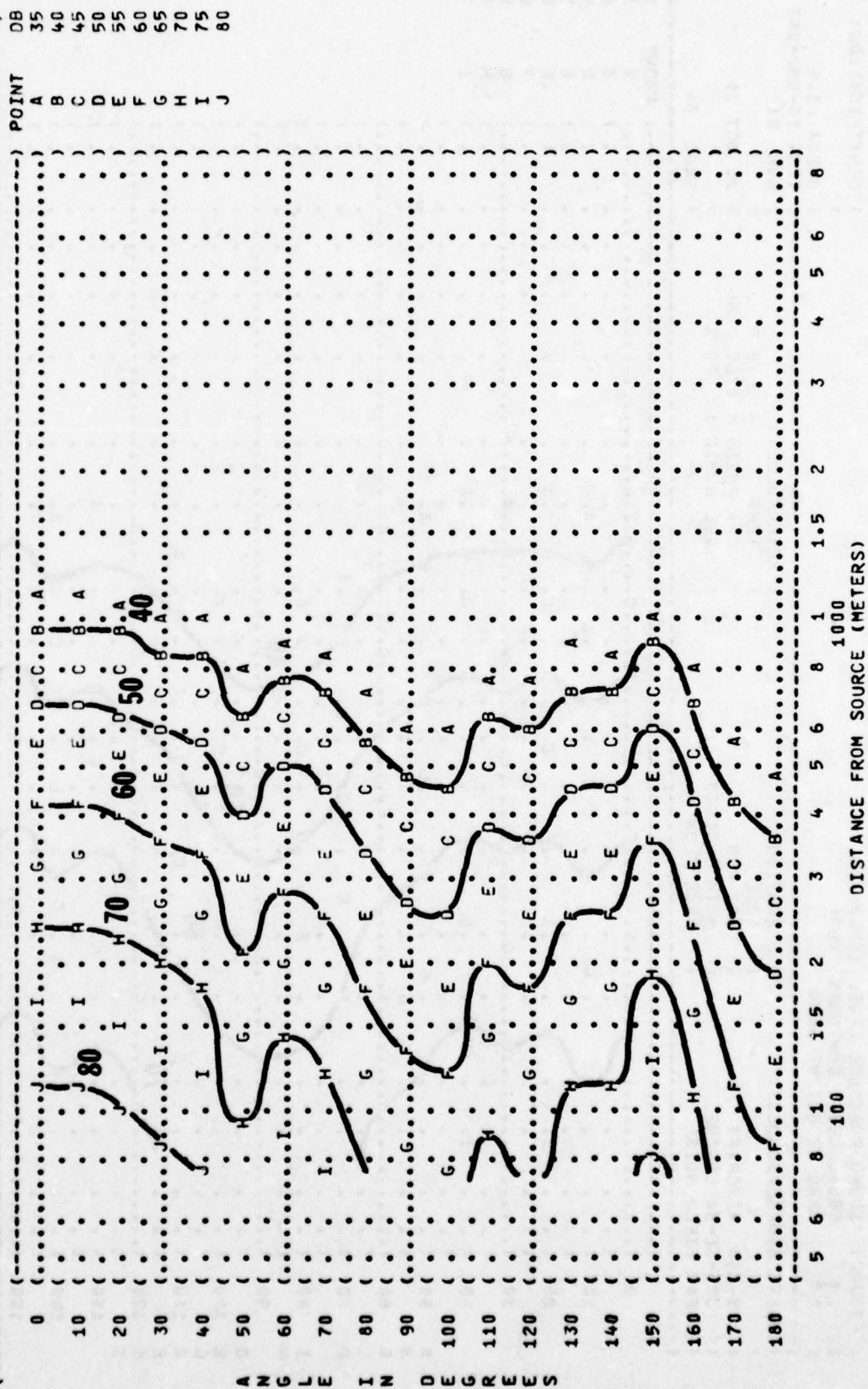


FIGURE: SOUND PRESSURE LEVEL (SPL)  
 11 EQUAL LEVEL CONTOURS (DB)  
 4000 HZ OCTAVE BAND

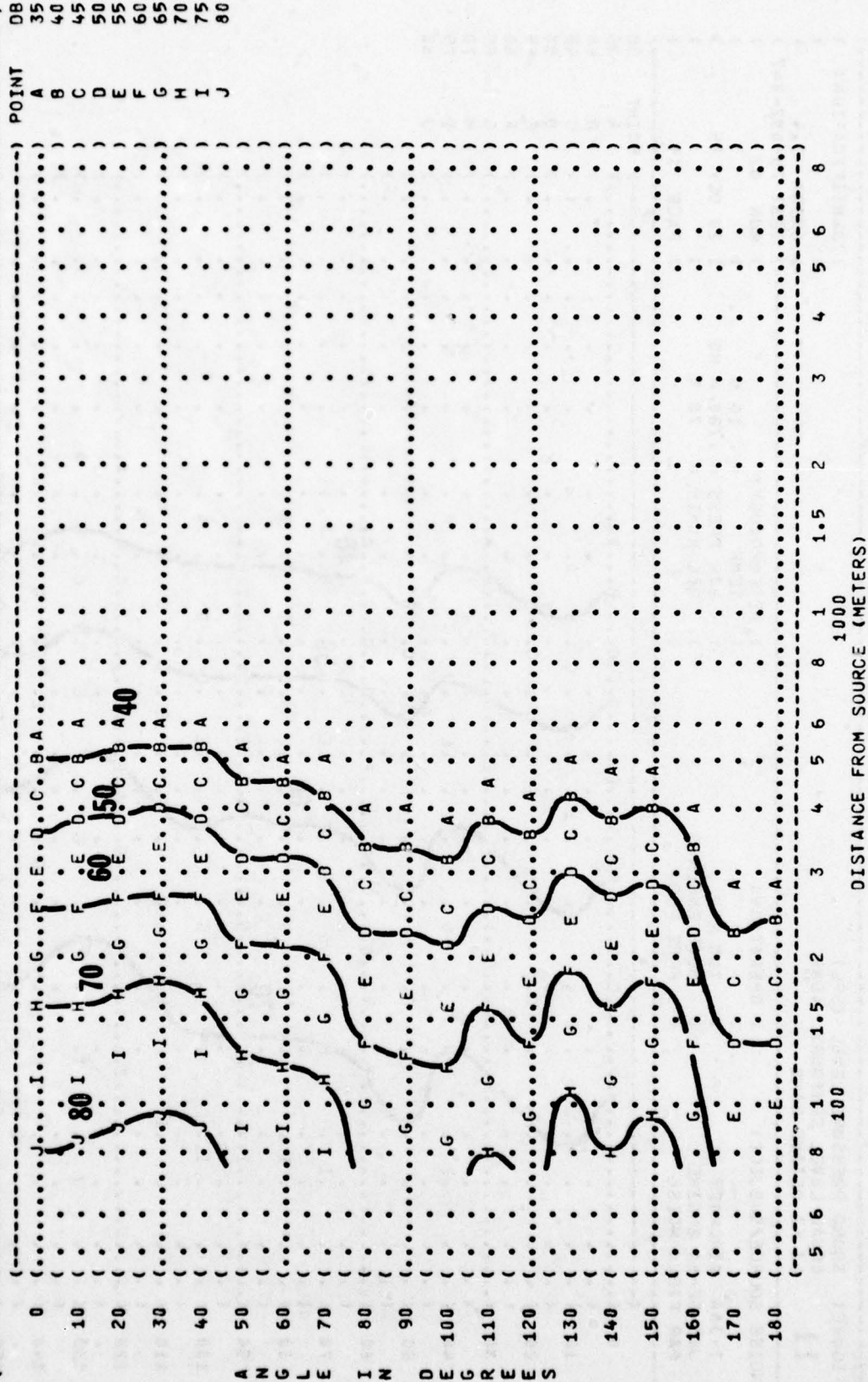
NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: )  
 ( ( IDLE ) TEMP = 15 C )  
 ( ( 48% RPM ) BAR PRESS = .760 M HG )  
 ( ( BOTH ENGINES ) REL HUMID = 70 % )  
 ( ( FREE FLOW ) )  
 T-38A AIRCRAFT  
 J85-GE-5A ENGINE  
 FAR FIELD NOISE

IDENTIFICATION: )  
 ) OMEGA 1.4  
 ) TEST 75-002-047  
 ) RUN 01  
 ) 20 OCT 75  
 ) PAGE 25

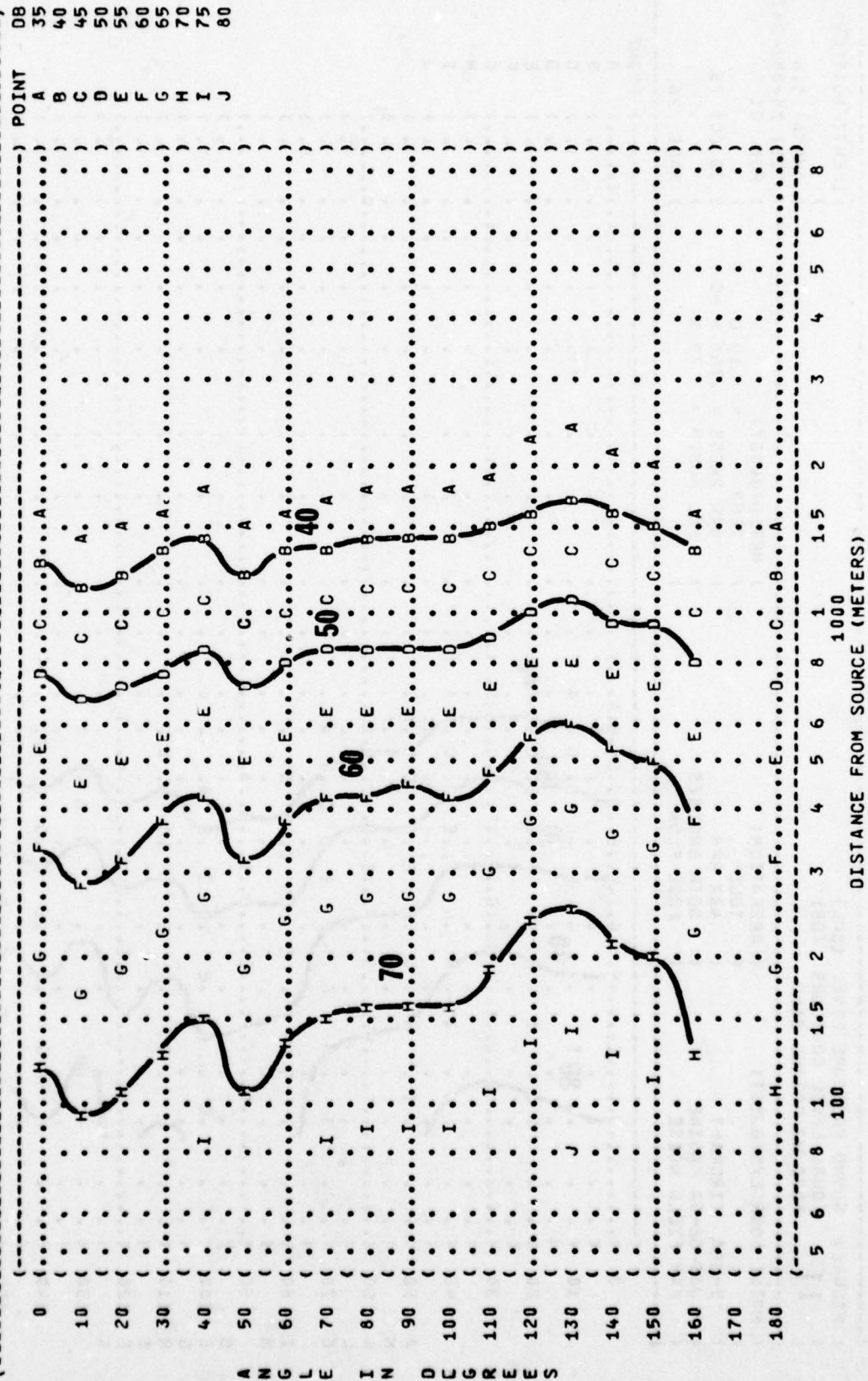




( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 8000 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( T-38A AIRCRAFT )  
 ( J85-GE-5A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( IDLE )  
 ( 48% RPM )  
 ( BOTH ENGINES )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-047 )  
 ( RUN 01 )  
 ( 20 OCT 75 )  
 ( PAGE 26 )



( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 63 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( T-38A AIRCRAFT ( 70% RPM  
 ( J85-GE-5A ENGINE ( BOTH ENGINES  
 ( FAR FIELD NOISE ( FREE FLOW  
 ( METEOROLOGY: TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION: OMEGA 1.4  
 ( TEST 75-002-047  
 ( RUN 02  
 ( 20 OCT 75  
 ( PAGE 19







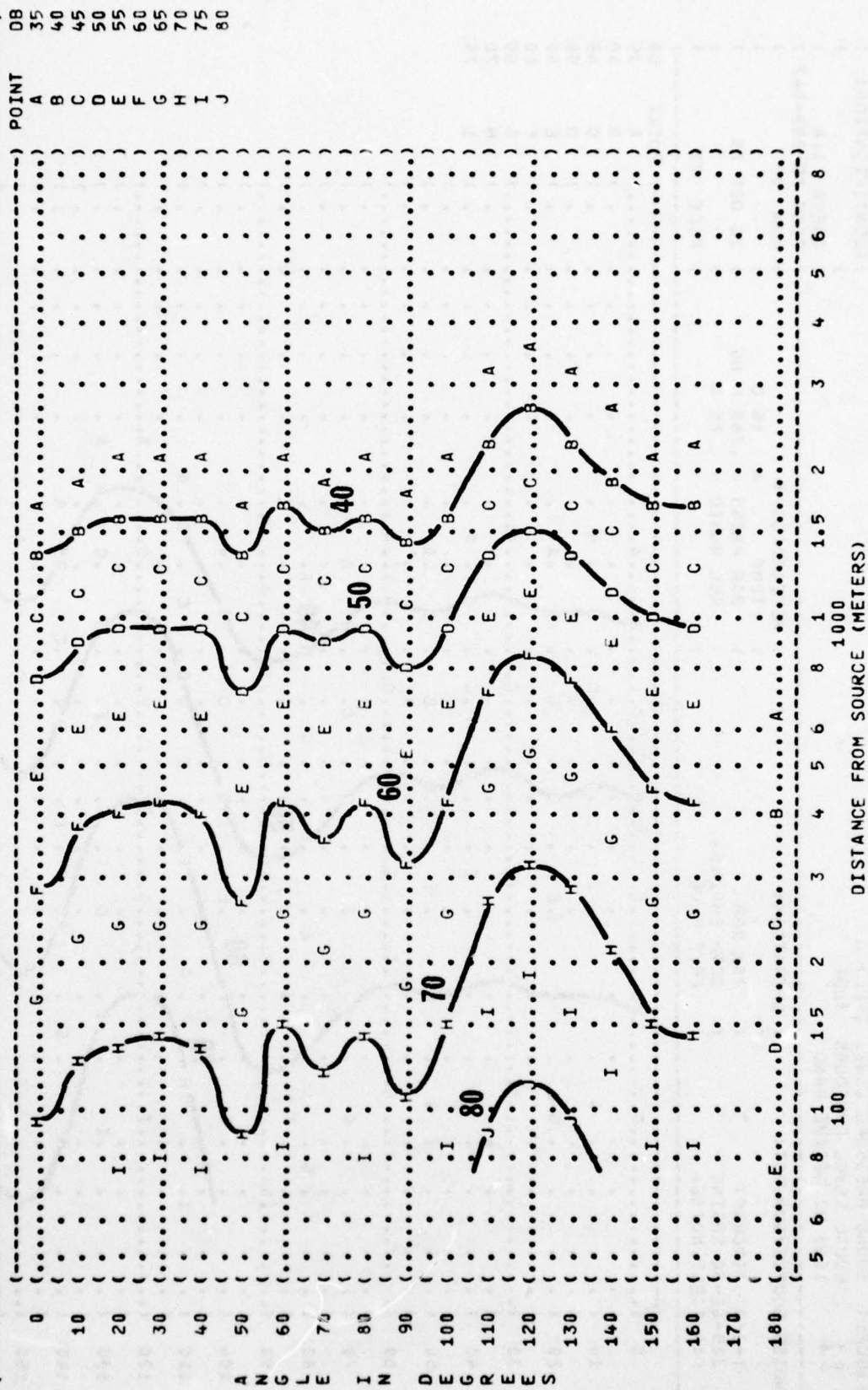


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FIGURE: SOUND PRESSURE LEVEL {SPL}
EQUAL LEVEL CONTOURS (DB)
11
500 HZ OCTAVE BAND

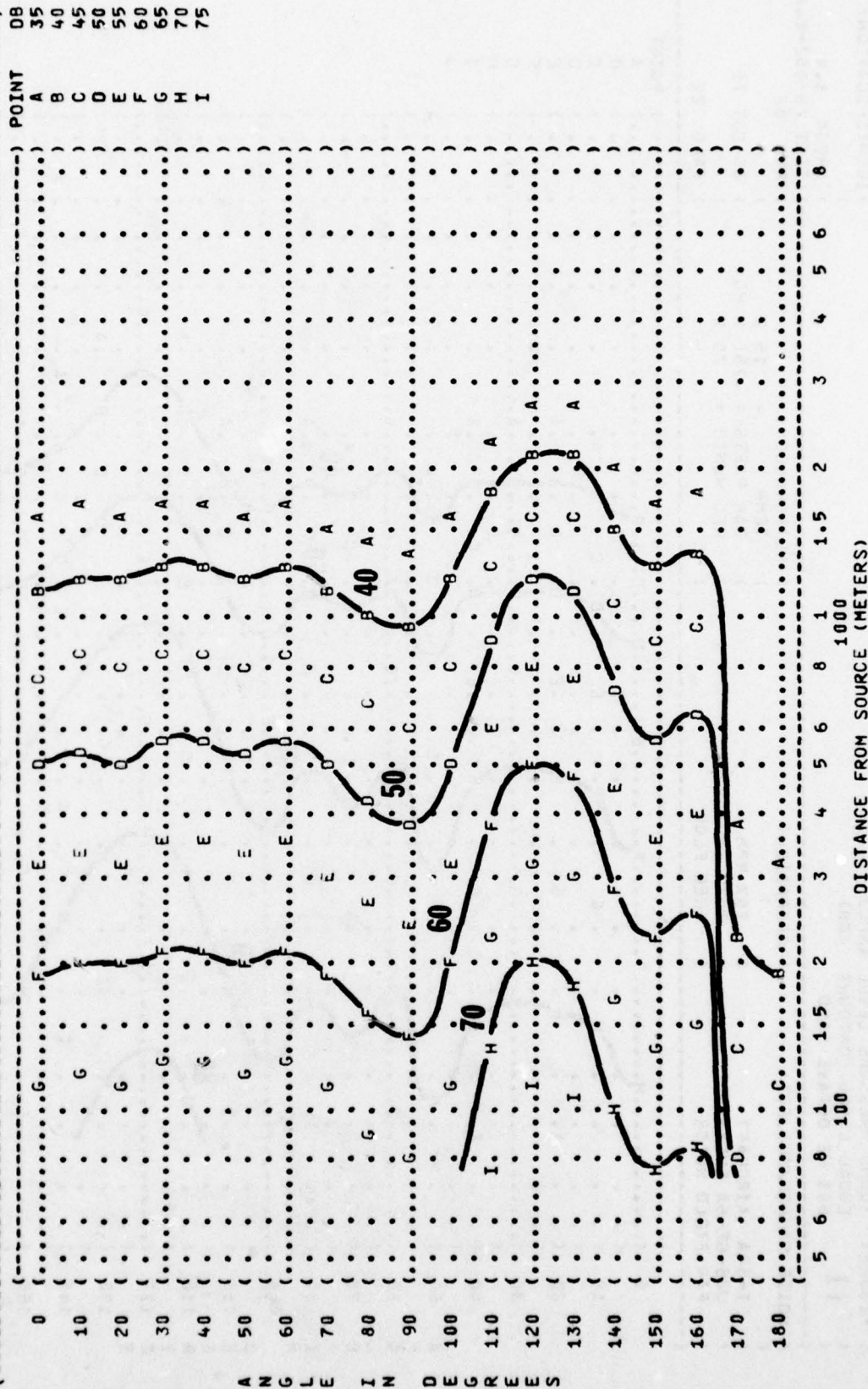
NOISE SOURCE/SUBJECT:      ) OPERATION:
(                               )
(    70% RPM                )
(    BOTH ENGINES           )
(    FREE FLOW               )

T-38A AIRCRAFT              ) METEOROLOGY:
J05-GE-5A ENGINE             ) TEMP = 15 C
FAR FIELD NOISE              ) BAR PRESS = .760 M HG
                                ) REL HUMID = 70 %

                                ) IDENTIFICATION:
                                ) OMEGA 1.4
                                ) TEST 75-002-047
                                ) RUN 02
                                ) 20 OCT 75
                                ) PAGE 22
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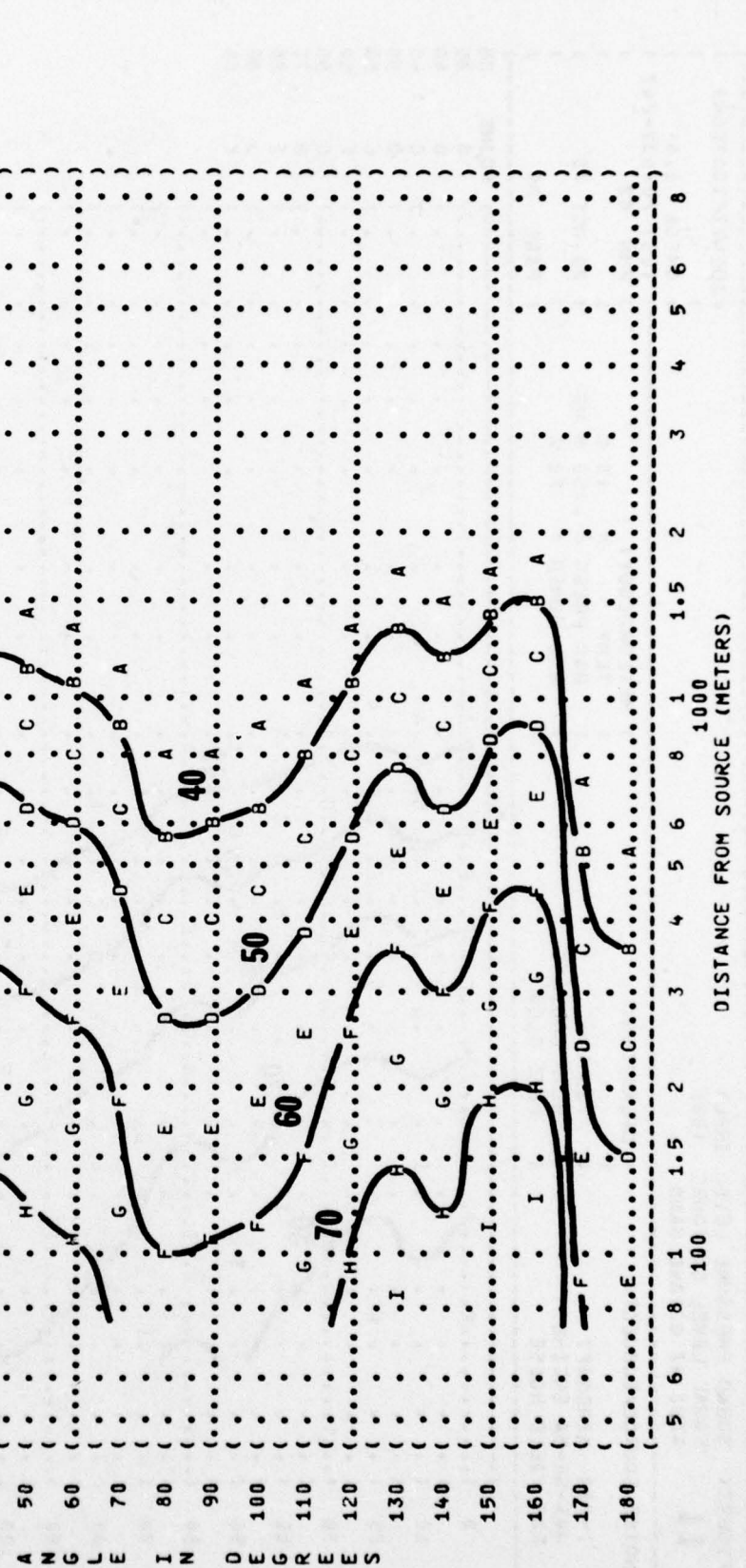


( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( EQUAL LEVEL CONTOURS (DB)  
 ( 11 1000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( T-38A AIRCRAFT ( 70% RPM  
 ( J85-GE-5A ENGINE ( BOTH ENGINES  
 ( FAR FIELD NOISE ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-047  
 ( RUN 02  
 ( 20 OCT 75  
 ( PAGE 23  
 ( POINT DB  
 ( A 35  
 ( B 40  
 ( C 45  
 ( D 50  
 ( E 55  
 ( F 60  
 ( G 65  
 ( H 70  
 ( I 75

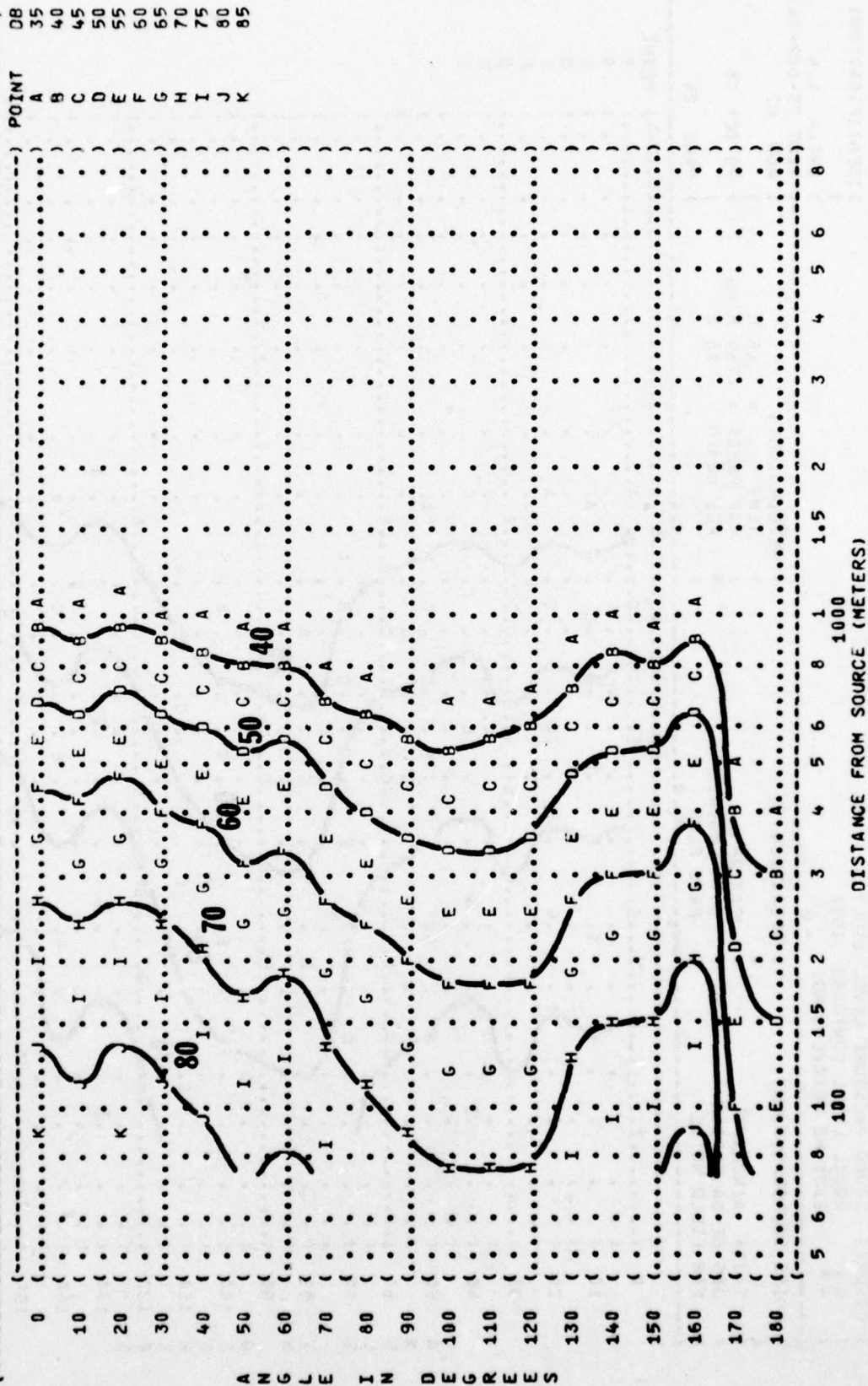




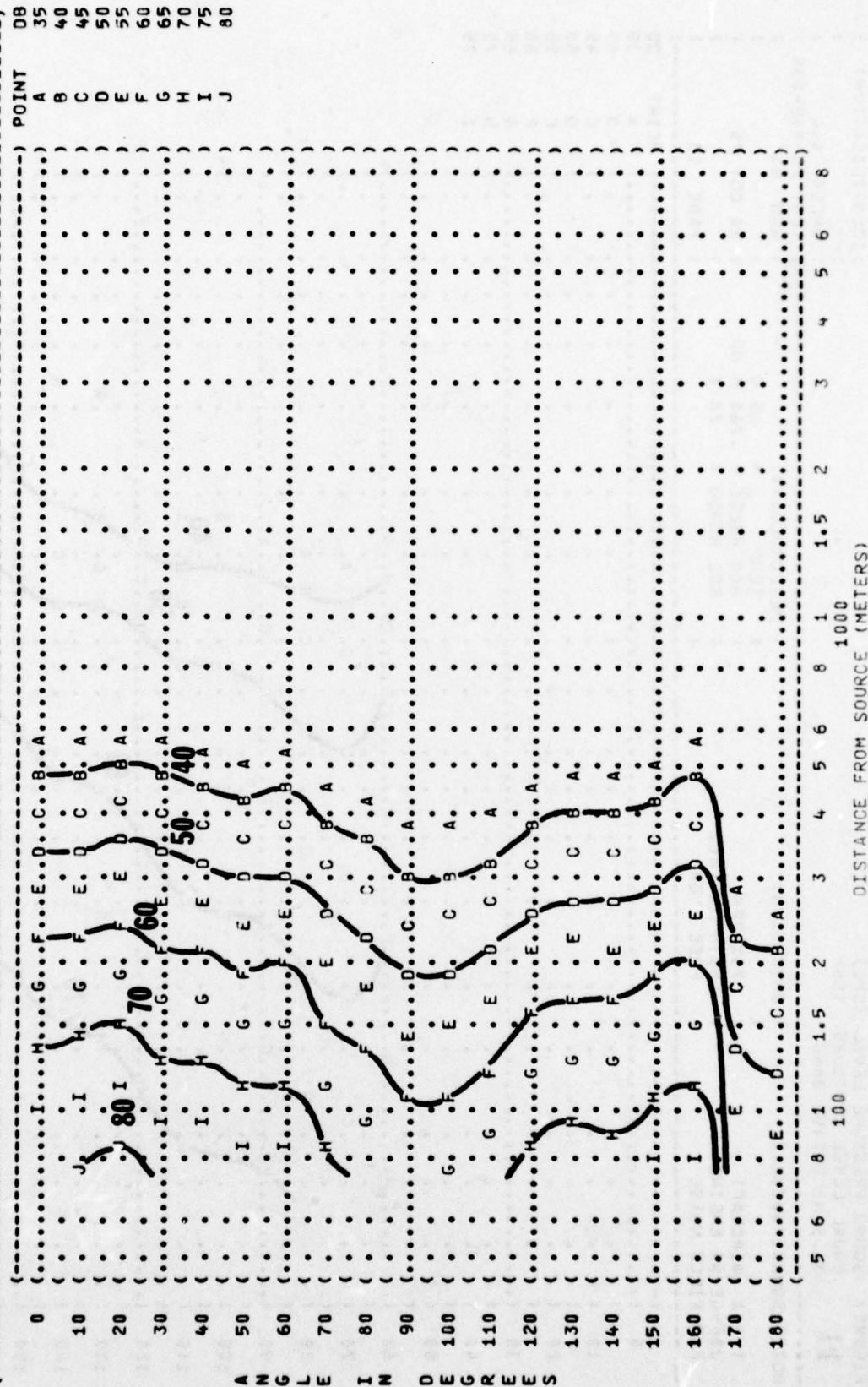
( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 2000 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( T-38A AIRCRAFT )  
 ( J85-GE-5A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( 70% RPM )  
 ( BOTH ENGINES )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-047 )  
 ( RUN 02 )  
 ( 20 OCT 75 )  
 ( PAGE 24 )  
 ( POINT DB )  
 ( A 35 )  
 ( B 40 )  
 ( C 45 )  
 ( D 50 )  
 ( E 55 )  
 ( F 60 )  
 ( G 65 )  
 ( H 70 )  
 ( I 75 )



( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 4000 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( T-38A AIRCRAFT )  
 ( J85-GE-5A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( 70% RPM )  
 ( BOTH ENGINES )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-047 )  
 ( RUN 02 )  
 ( 20 OCT 75 )  
 ( PAGE 25 )

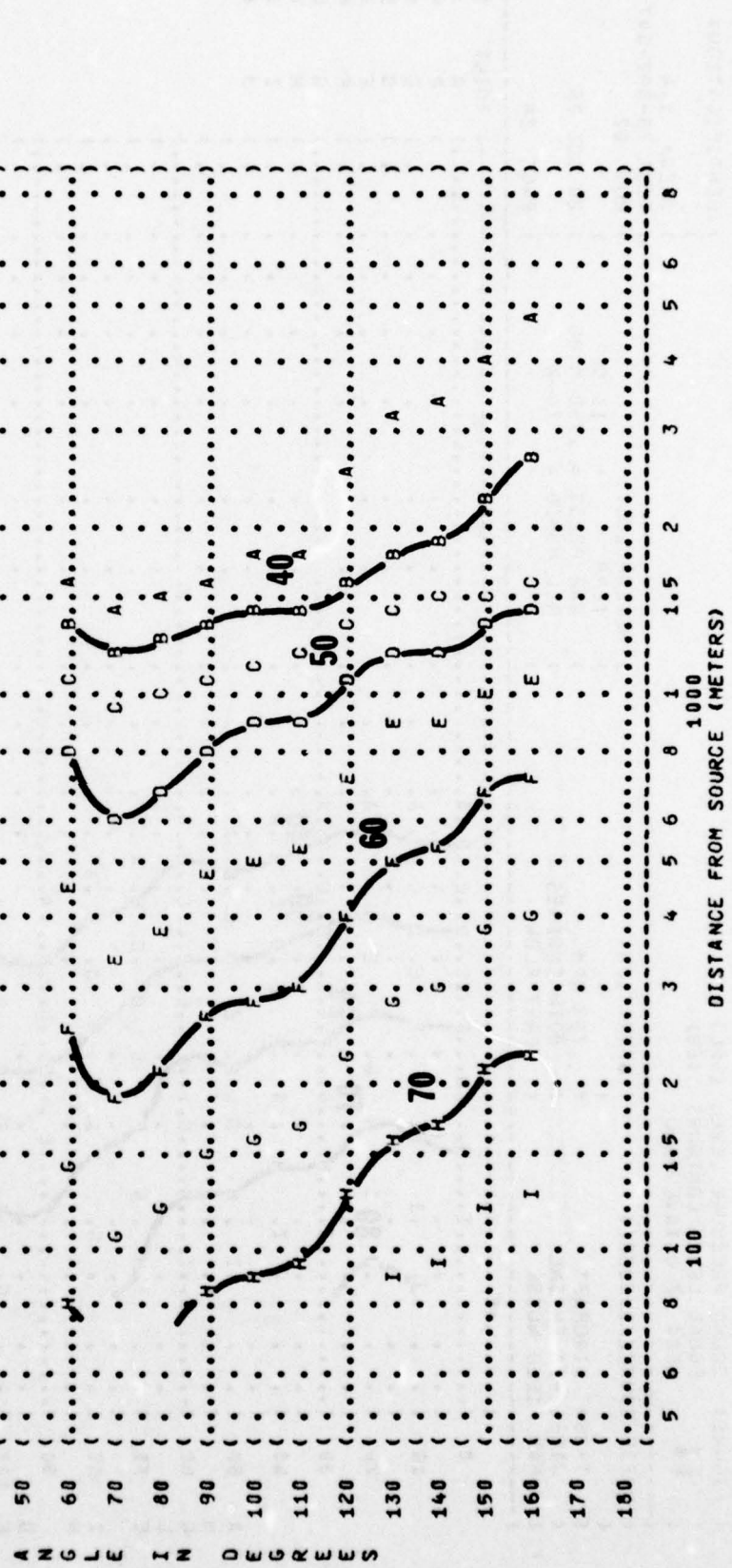


( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 8000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( T-38A AIRCRAFT ( 70% RPM  
 ( J85-GE-5A ENGINE ( BOTH ENGINES  
 ( FAR FIELD NOISE ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( 20 OCT 75  
 ( PAGE 26  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-047  
 ( RUN 02



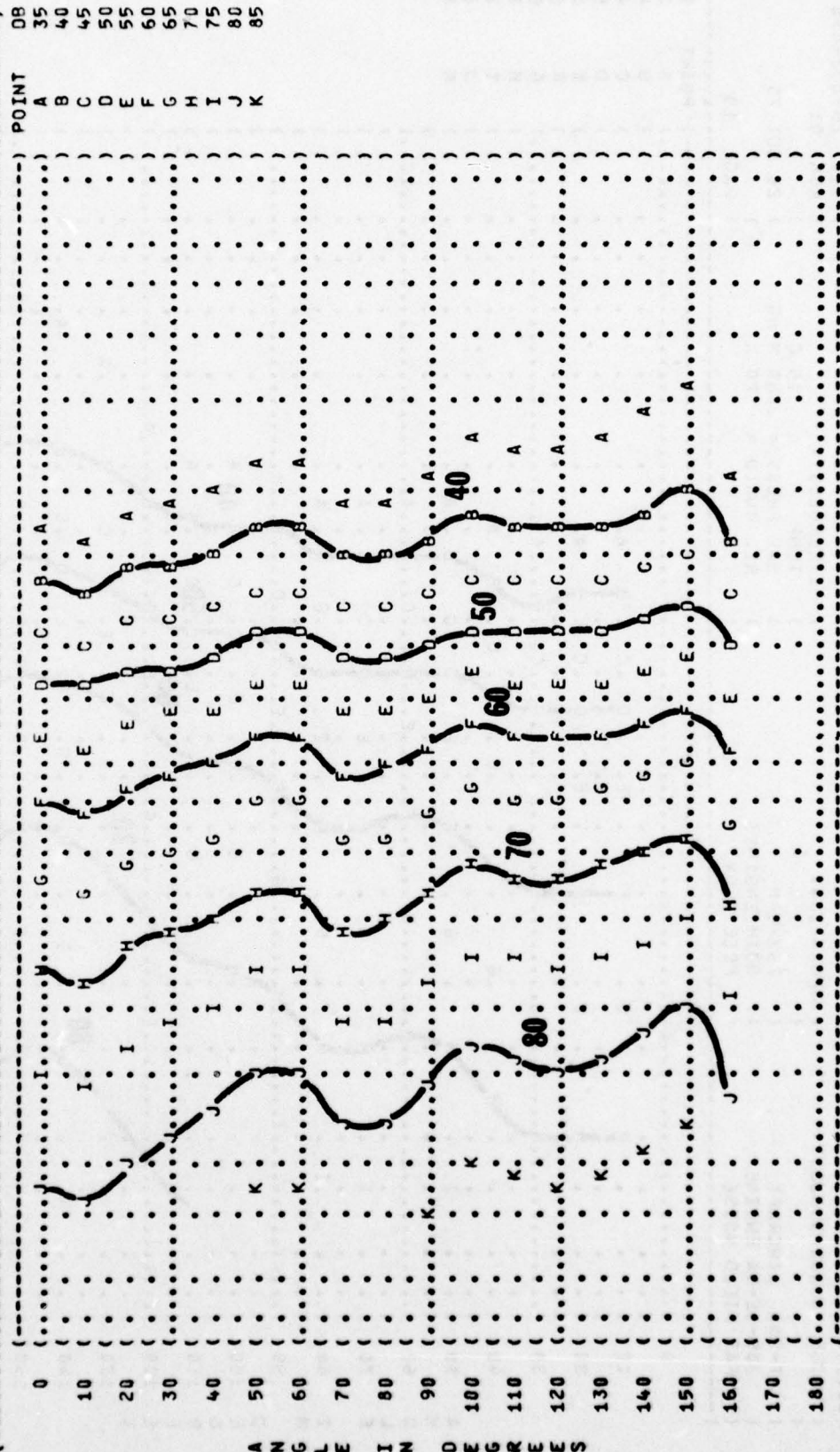


( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 31.5 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( T-38A AIRCRAFT ( 75% RPM  
 ( J85-GE-5A ENGINE ( BOTH ENGINES  
 ( FAR FIELD NOISE ( FREE FLOW  
 ( METEOROLOGY: ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( PAGE 18  
 ( IDENTIFICATION: ( OMEGA 1.4  
 ( TEST 75-002-056  
 ( RUN 01  
 ( 20 OCT 75  
 ( POINT DB  
 ( A 35  
 ( B 40  
 ( C 45  
 ( D 50  
 ( E 55  
 ( F 60  
 ( G 65  
 ( H 70  
 ( I 75



139

( ( FIGURE: SOUND PRESSURE LEVEL (SPL) ) )  
 ( ( 11 EQUAL LEVEL CONTOURS (DB) ) )  
 ( ( 125 HZ OCTAVE BAND ) )  
 ( ( NOISE SOURCE/SUBJECT: ) )  
 ( ( T-38A AIRCRAFT ) )  
 ( ( J85-GE-5A ENGINE ) )  
 ( ( FAR FIELD NOISE ) )  
 ( ( OPERATION: ) )  
 ( ( 75% RPM ) )  
 ( ( BOTH ENGINES ) )  
 ( ( FREE FLOW ) )  
 ( ( METEOROLOGY: ) )  
 ( ( TEMP = 15 C ) )  
 ( ( BAR PRESS = .760 M HG ) )  
 ( ( REL HUMID = 70 % ) )  
 ( ( IDENTIFICATION: ) )  
 ( ( OMEGA 1.4 ) )  
 ( ( TEST 75-002-056 ) )  
 ( ( RUN 01 ) )  
 ( ( 20 OCT 75 ) )  
 ( ( PAGE 20 ) )

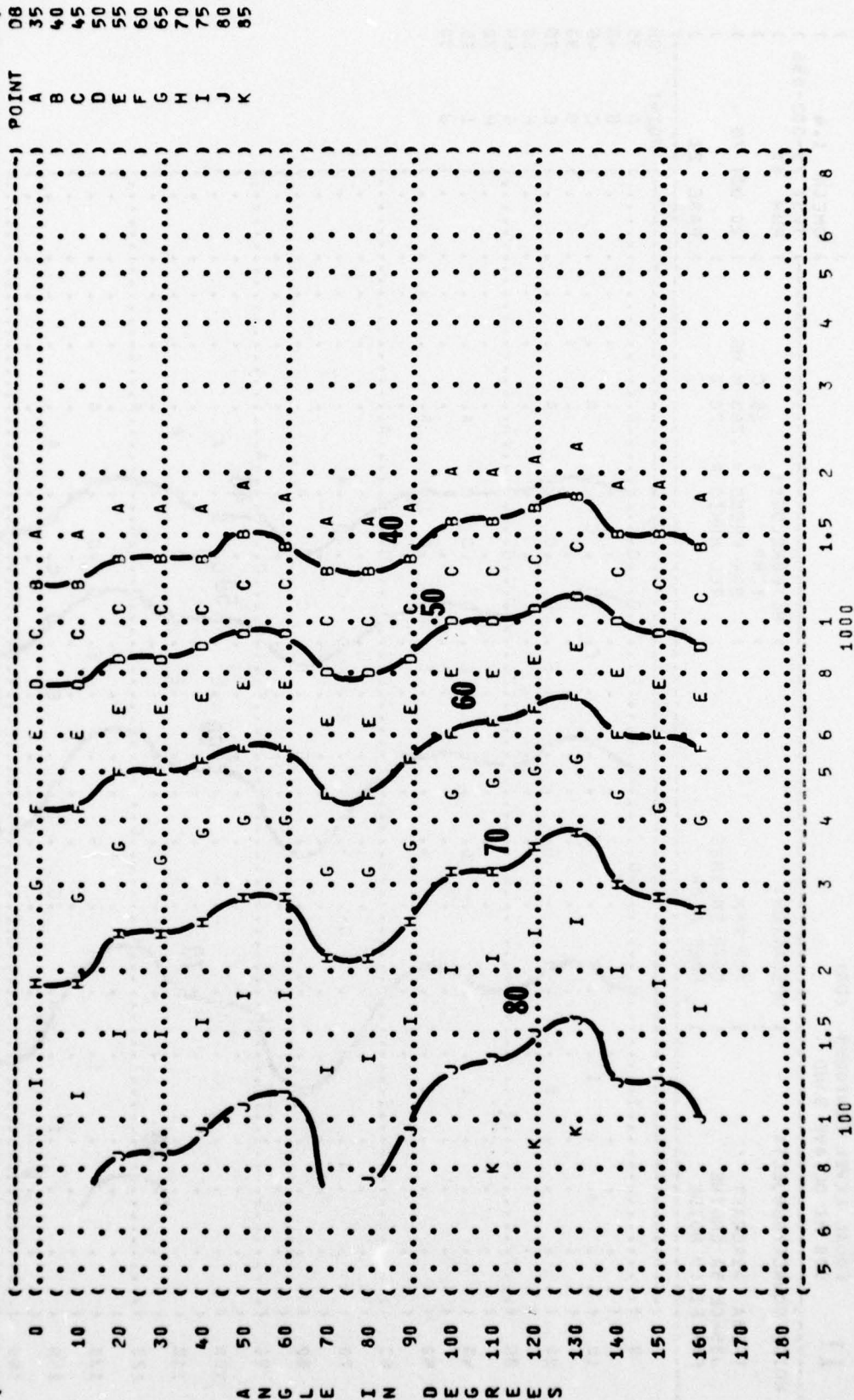


POINT DB  
 A 35  
 B 40  
 C 45  
 D 50  
 E 55  
 F 60  
 G 65  
 H 70  
 I 75  
 J 80  
 K 85

DISTANCE FROM SOURCE (METERS)



( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 250 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( T-38A AIRCRAFT ( 75% RPM  
 ( J85-GE-5A ENGINE ( BOTH ENGINES  
 ( FAR FIELD NOISE ( FREE FLOW  
 ( METEOROLOGY: ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION: ( OMEGA 1.4  
 ( TEST 75-002-056  
 ( RUN 01  
 ( 20 OCT 75  
 ( PAGE 21



DISTANCE FROM SOURCE (METERS)

```
(-----)
( FIGURE: SOUND PRESSURE LEVEL (SPL) ) IDENTIFICATION: )
( 11 EQUAL LEVEL CONTOURS (DB) ) )
( 500 HZ OCTAVE BAND ) OMEGA 1.4 )
(-----)
( NOISE SOURCE/SUBJECT: ) METEOROLOGY: )
( ) TEMP = 15 C )
( T-38A AIRCRAFT ) BAR PRESS = .760 M HG )
( J85-GE-5A ENGINE ) 75% RPM ) 20 OCT 75 )
( FAR FIELD NOISE ) BOTH ENGINES ) )
( FREE FLOW ) ) PAGE 22 )
(-----)
```

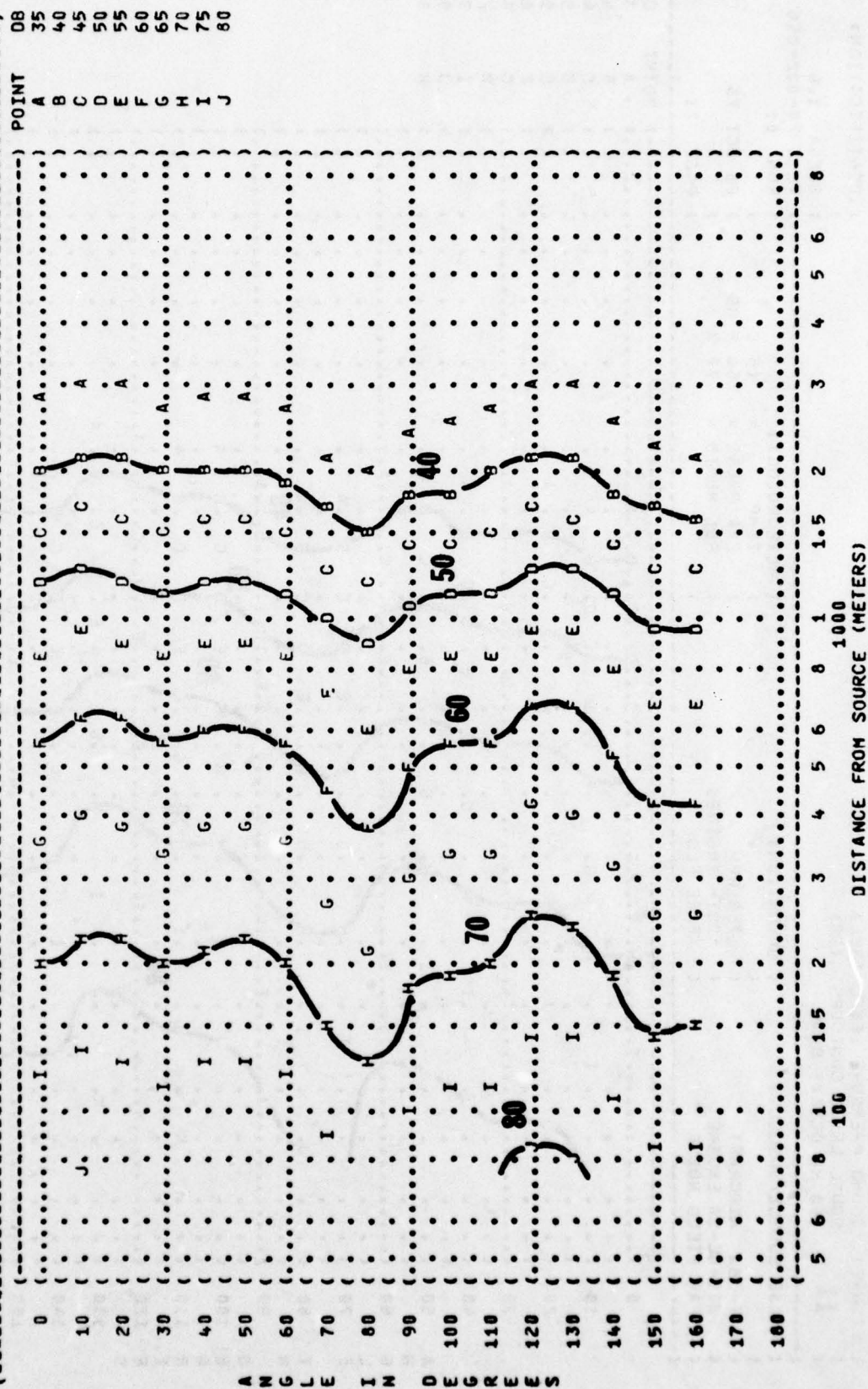


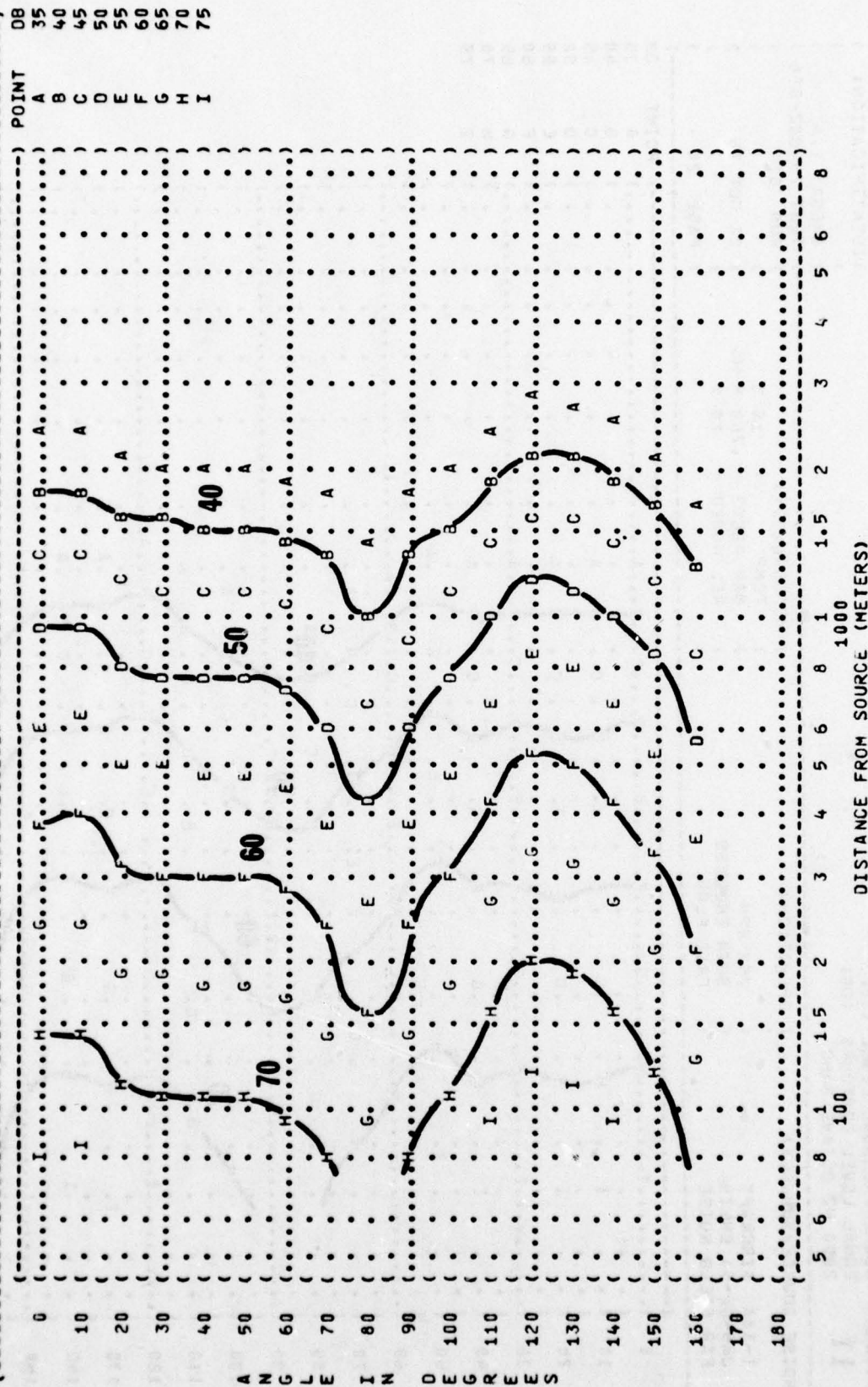
FIGURE 11 SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 1000 HZ OCTAVE BAND

IDENTIFICATION: OMEGA 1.4 TEST 75-002-056 RUN 01

NOISE SOURCE/SUBJECT: OPERATION: METEOROLOGY: TEMP = 15 C BAR PRESS = .760 M HG REL HUMID = 70 %

T-38A AIRCRAFT 75% RPM J85-GE-5A ENGINE BOTH ENGINES FAR FIELD NOISE FREE FLOW

20 OCT 75 PAGE 23





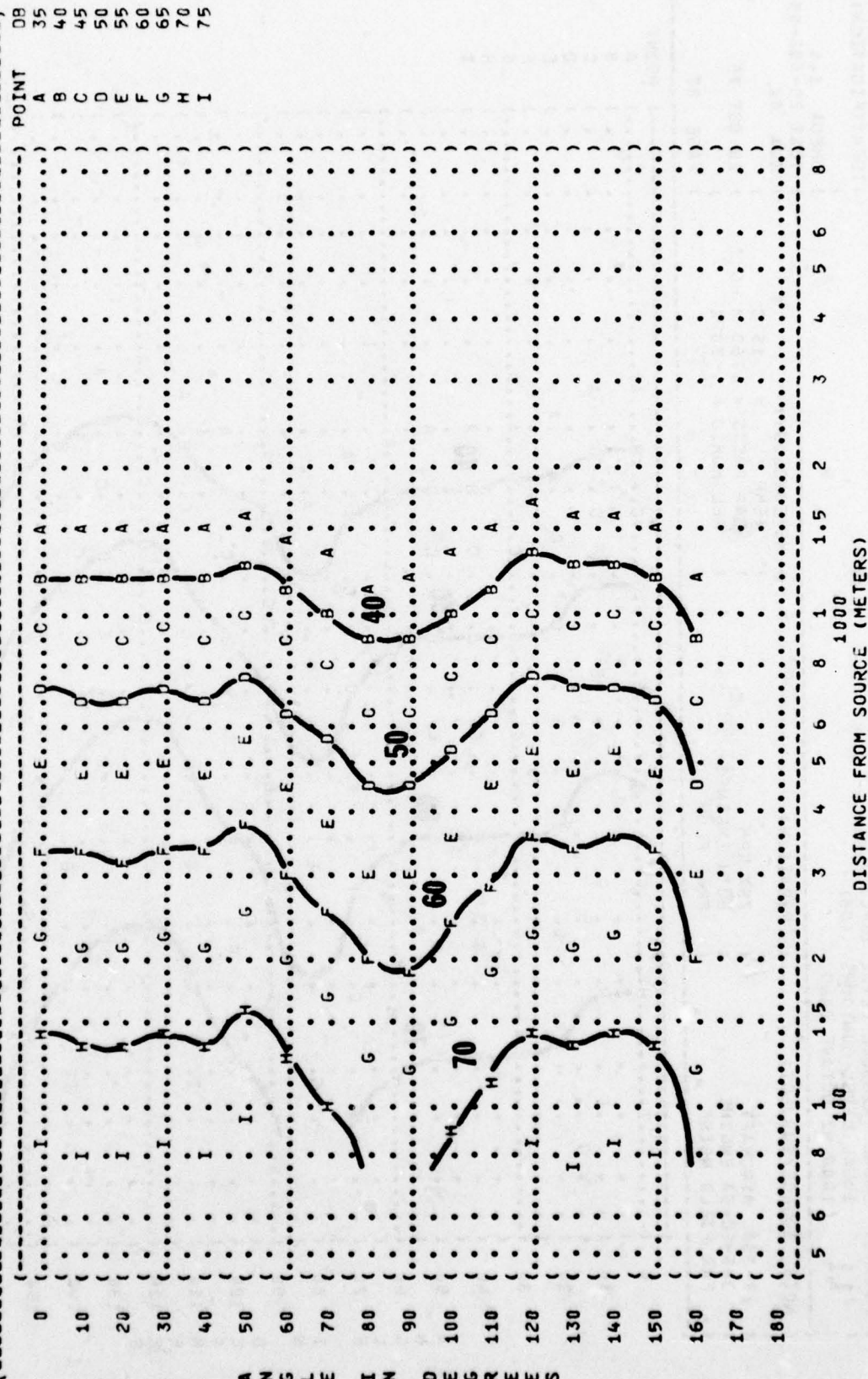
SOUND PRESSURE LEVEL {SPL}  
UNEQUAL LEVEL CONTOURS (DB)  
2000 HZ OCTAVE BAND

IDENTIFICATION:  
OMEGA 1.4  
TEST 75-002-050  
RUN 01  
20 OCT 75  
PAGE 24

METEOROLOGY :  
TEMP  
BAR PRESS  
REL HUMID

OPERATIONS:  
75% RPM  
BOTH ENG  
FREE FLOW

ISE SOURCE/SUBJECT:  
T-38A AIRCRAFT  
J85-GE-5A ENGINE  
FAR FIELD NOISE

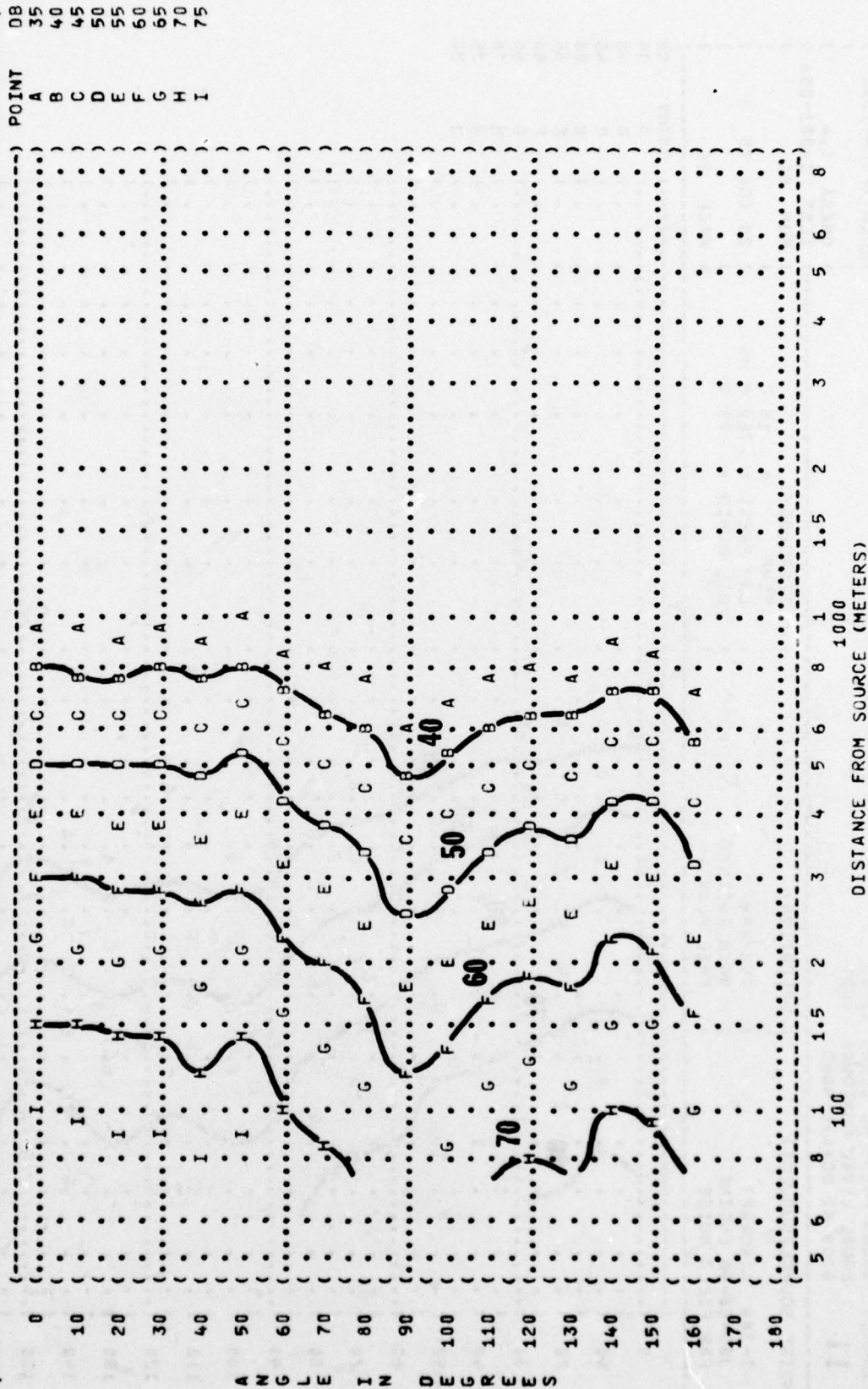


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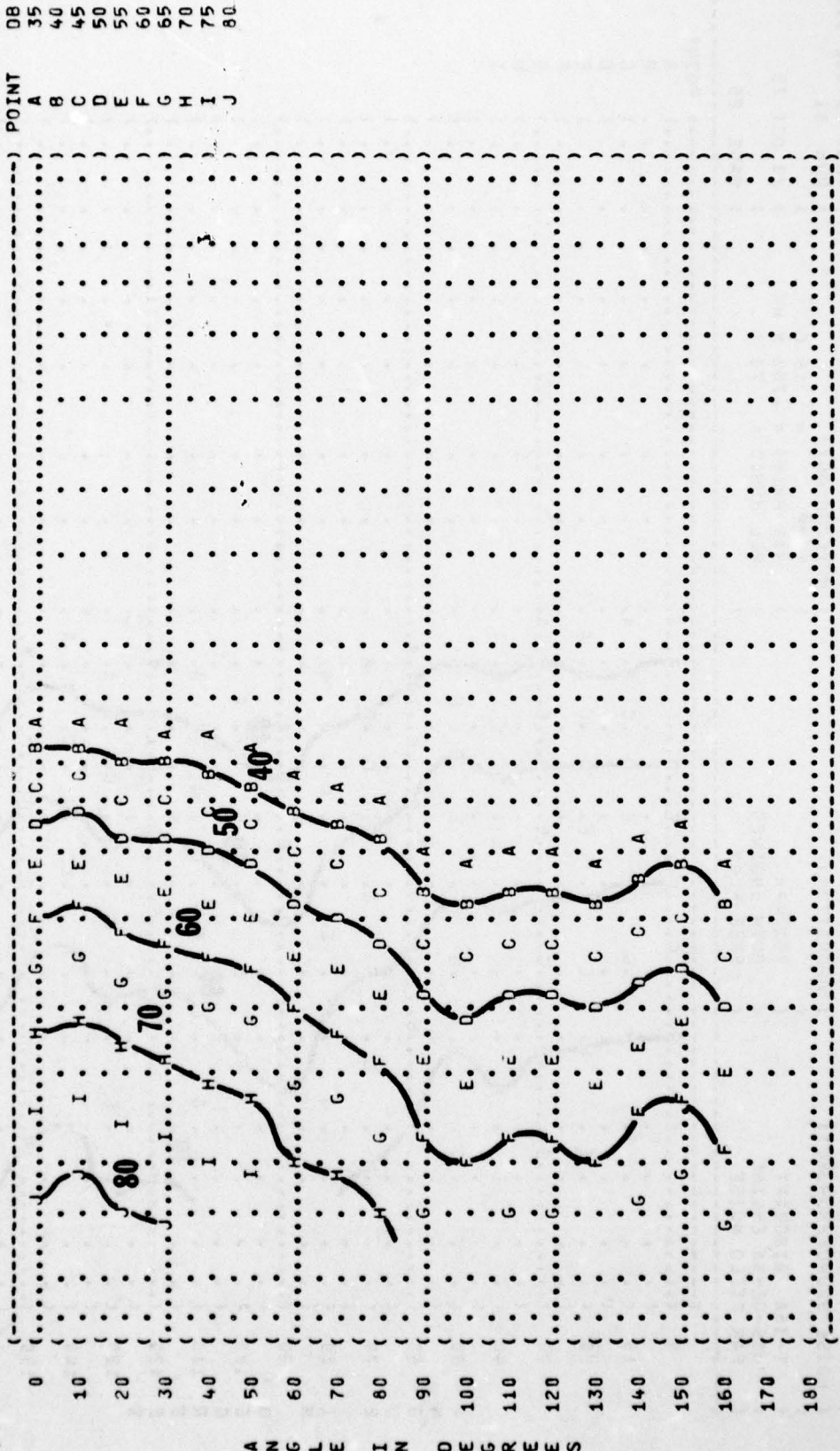
FIGURE: SOUND PRESSURE LEVEL (SPL)  
EQUAL LEVEL CONTOURS (DB)  
4000 HZ OCTAVE BAND

11

IDENTIFICATION:  
OMEGA 1.4  
TEST 75-002-056  
RUN 01  
METEOROLOGY:  
TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %  
OPERATION:  
75% RPM  
BOTH ENGINES  
FREE FLOW  
NOISE SOURCE/SUBJECT:  
T-38A AIRCRAFT  
J85-GE-5A ENGINE  
FAR FIELD NOISE



( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 8000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION:  
 ( T-38A AIRCRAFT ( 75% RPM  
 ( J85-GE-5A ENGINE ( BOTH ENGINES  
 ( FAR FIELD NOISE ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-056  
 ( RUN 01  
 ( 20 OCT 75  
 ( PAGE 26



A N G L E I N D E G R E E S

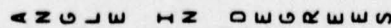
DISTANCE FROM SOURCE (METERS)





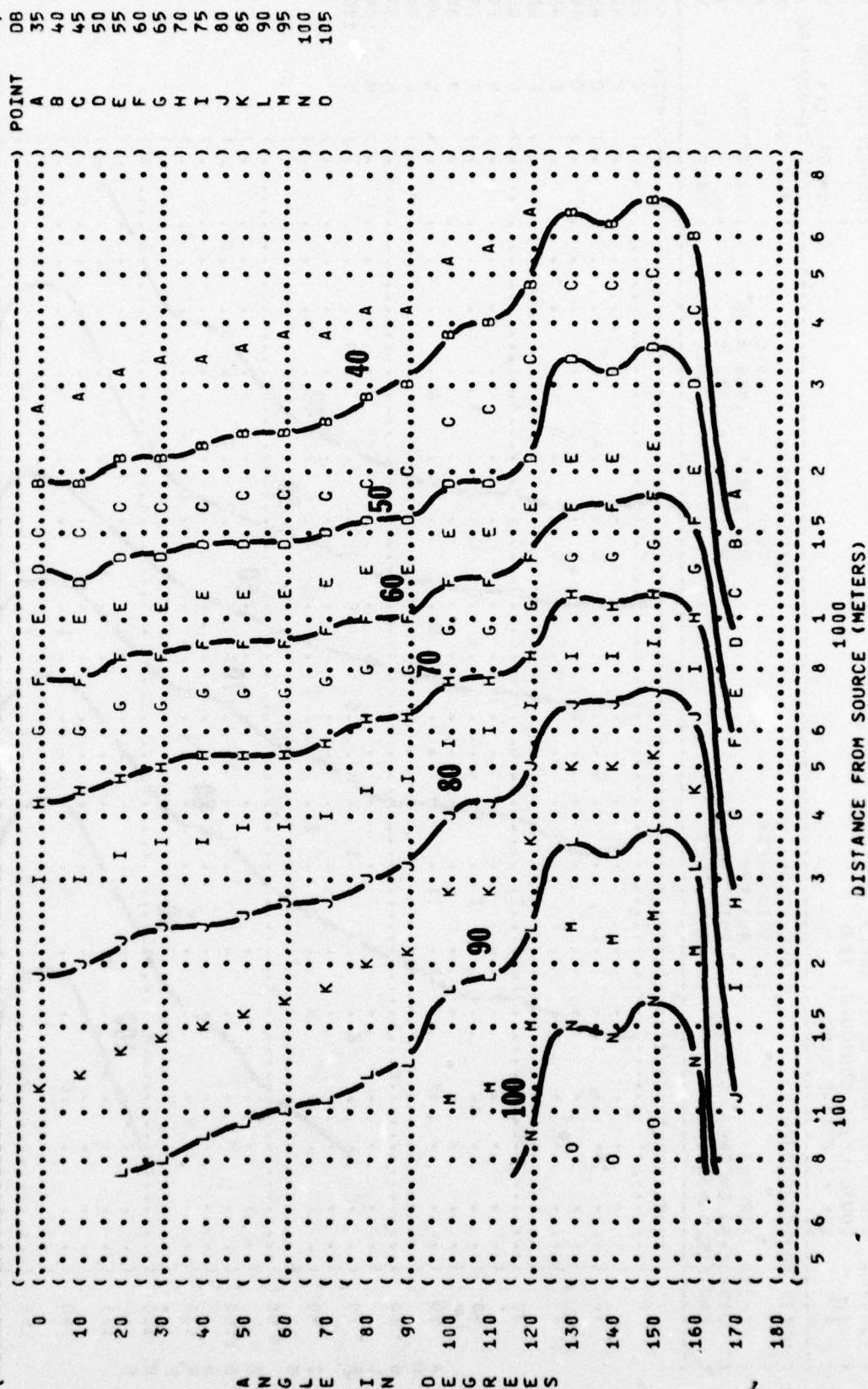
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(-----)
( FIGURE : SOUND PRESSURE LEVEL {SPL} ) IDENTIFICATION :
( EQUAL LEVEL CONTOURS (DB) )
( 11 ) OMEGA 1.4
( 63 HZ OCTAVE BAND ) TEST 75-002-056
( NOISE SOURCE/SUBJECT : ) RUN 02
( OPERATION : ) METEOROLOGY :
( TRIM CHECK ) TEMP = 15 C
( 94% RPM ) BAR PRESS = .760 M HG
( BOTH ENGINES ) REL HUMID = 70 %
( FREE FLOW )
( T-38A AIRCRAFT )
( J85-GE-5A ENGINE )
( FAR FIELD NOISE ) PAGE 19
(-----)
```

( ( FIGURE: SOUND PRESSURE LEVEL {SPL}  
( ( EQUAL LEVEL CONTOURS (DB)  
( ( **11**  
( ( 125 HZ OCTAVE BAND  
( ( -----  
( ( NOISE SOURCE/SUBJECT: ( OPERATION: ( METEOROLOGY: ( IDENTIFICATION:  
( ( ( TRIM CHECK ( ) TEMP = 15 C ( )  
( ( T-38A AIRCRAFT ( ( 94% RPM ( ) BAR PRESS = .760 M HG ( )  
( ( J85-GE-5A ENGINE ( ( BOTH ENGINES ( ) 20 OCT 75 ( )  
( ( FAR FIELD NOISE ( ( FREE FLOW ( ) PAGE 20 ( )

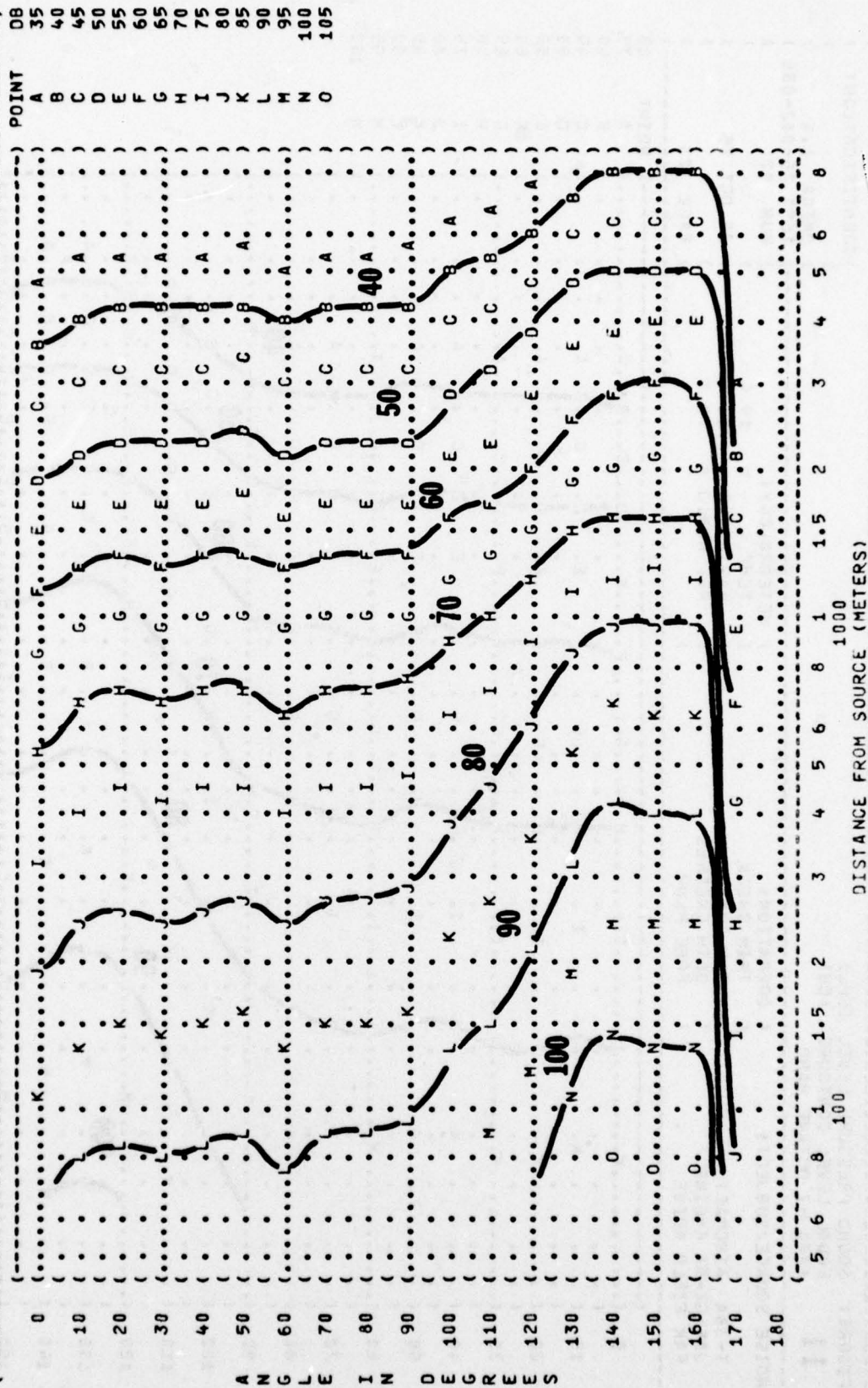




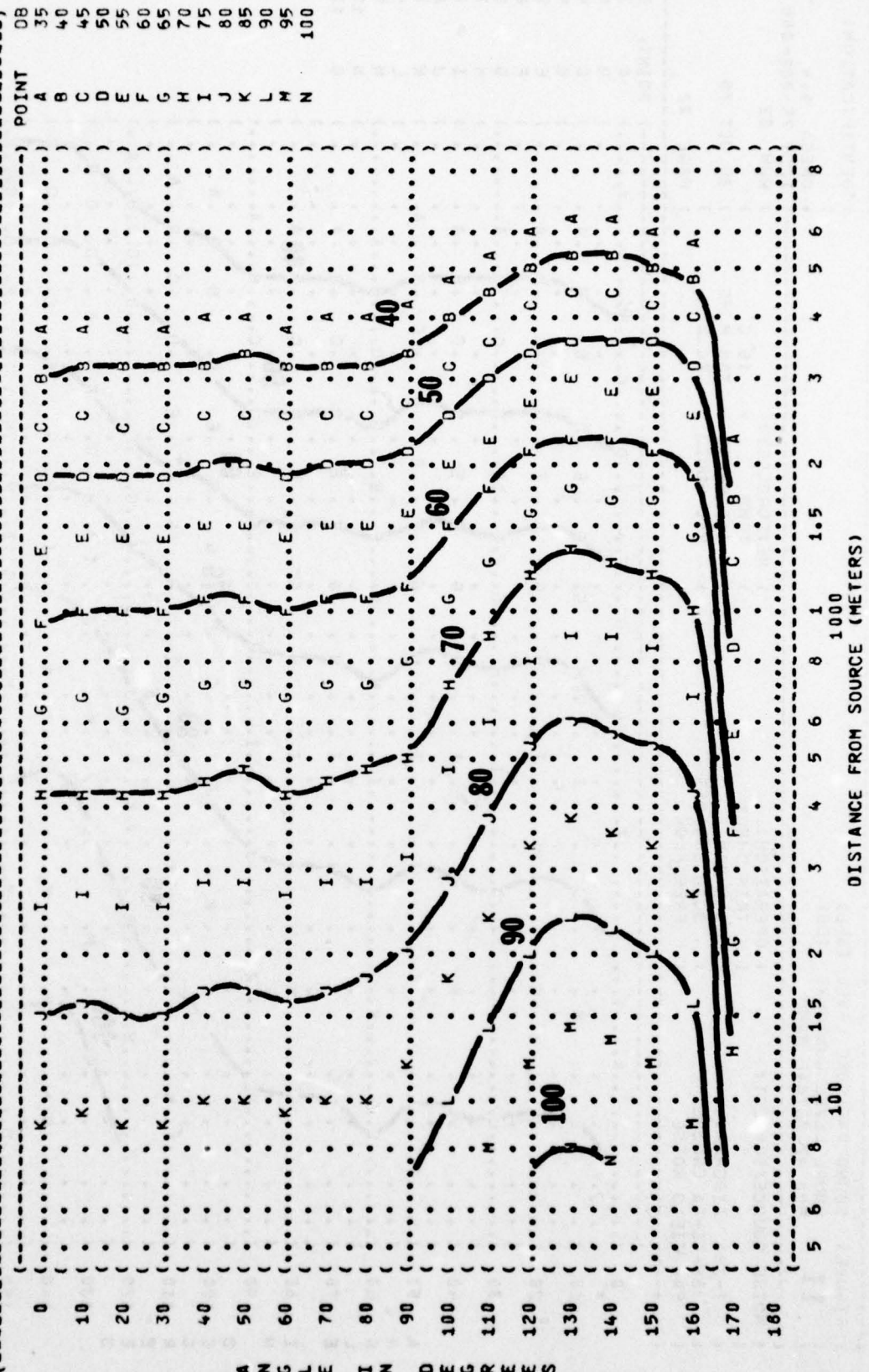
( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 250 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( T-38A AIRCRAFT )  
 ( J85-GE-5A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( TRIM CHECK )  
 ( 94% RPM )  
 ( BOTH ENGINES )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-056 )  
 ( RUN 02 )  
 ( 20 OCT 75 )  
 ( PAGE 21 )



( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 500 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( T-38A AIRCRAFT )  
 ( J85-GE-5A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( TRIM CHECK )  
 ( 94% RPM )  
 ( BOTH ENGINES )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-056 )  
 ( RUN 02 )  
 ( 20 OCT 75 )  
 ( PAGE 22 )

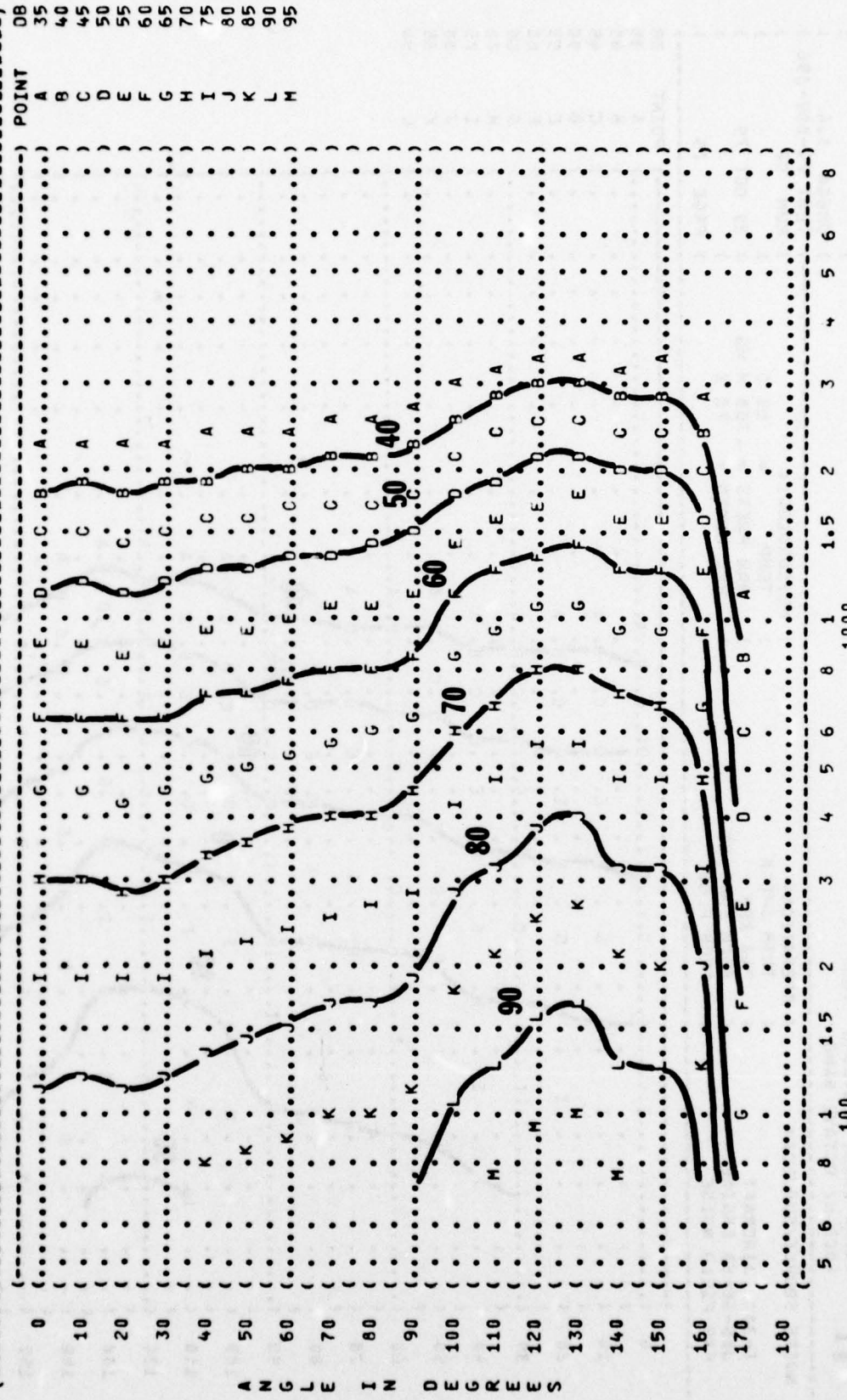


( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 1000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( T-38A AIRCRAFT  
 ( J85-GE-5A ENGINE  
 ( FAR FIELD NOISE  
 ( OPERATION:  
 ( TRIM CHECK  
 ( 94% RPM  
 ( BOTH ENGINES  
 ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-056  
 ( RUN 02  
 ( 20 OCT 75  
 ( PAGE 23



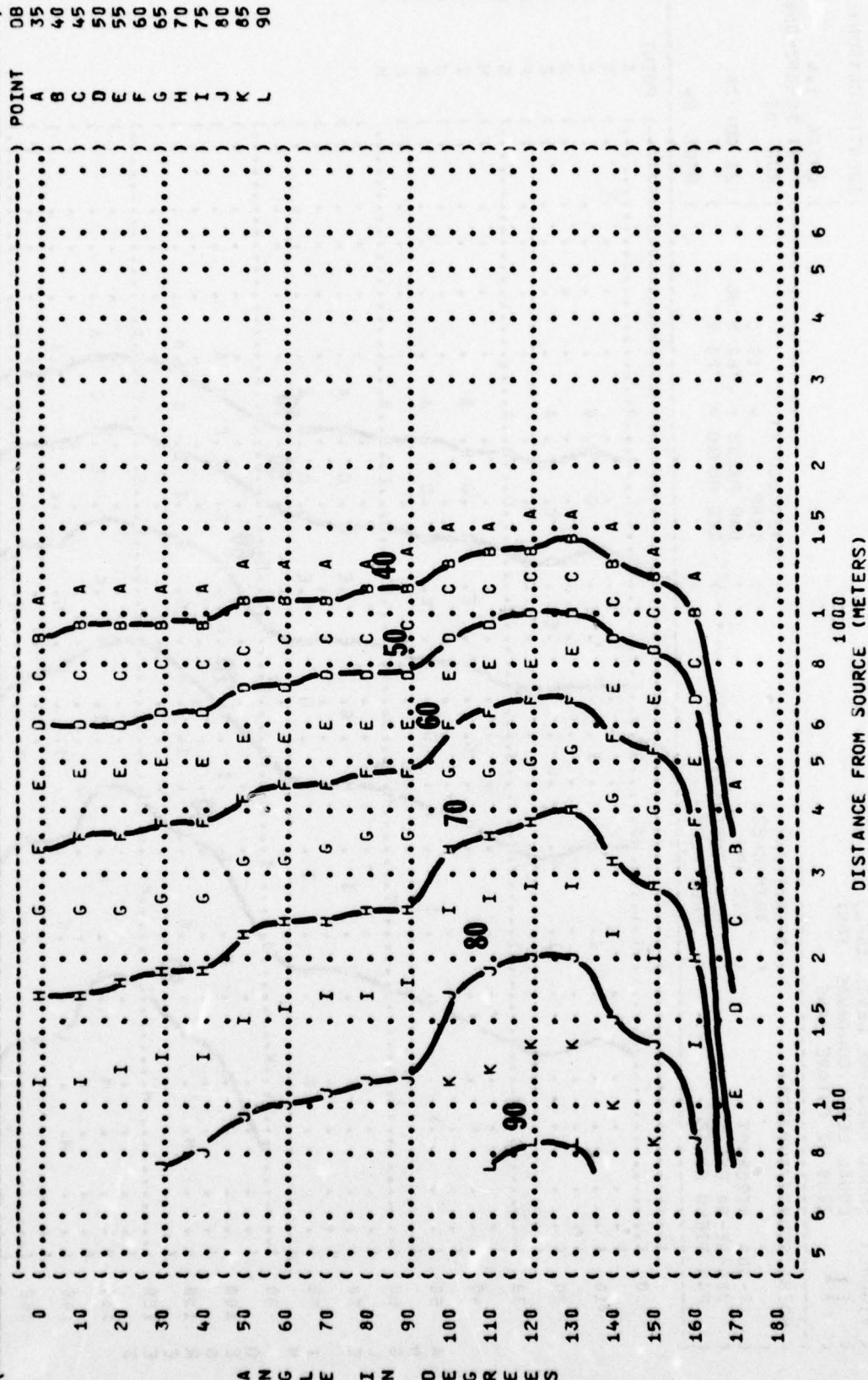


( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 2000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION: ( METEOROLOGY: ( POINT DB  
 ( T-38A AIRCRAFT ( TRIM CHECK ( TEMP = 15 C ( A 35  
 ( J65-GE-5A ENGINE ( 94% RPM ( BAR PRESS = .760 M HG ( B 40  
 ( FAR FIELD NOISE ( BOTH ENGINES ( REL HUMID = 70 % ( C 45  
 ( FREE FLOW ( ( ( D 50  
 ( ( ( ( E 55  
 ( ( ( ( F 60  
 ( ( ( ( G 65  
 ( ( ( ( H 70  
 ( ( ( ( I 75  
 ( ( ( ( J 80  
 ( ( ( ( K 85  
 ( ( ( ( L 90  
 ( ( ( ( M 95

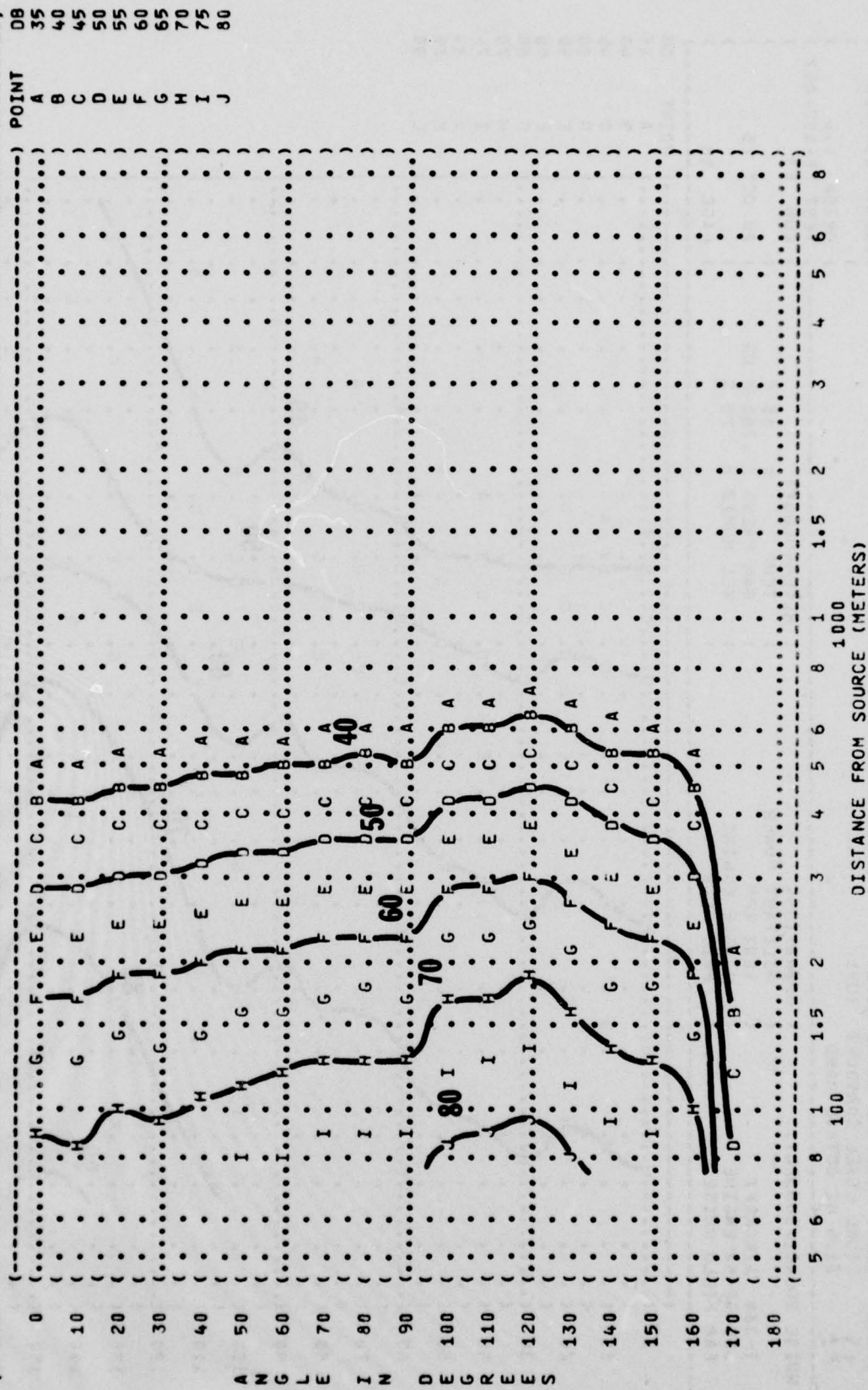


DISTANCE FROM SOURCE (METERS)

( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 4000 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( T-38A AIRCRAFT )  
 ( J85-GE-5A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( TRIM CHECK )  
 ( 94% RPM )  
 ( BOTH ENGINES )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-056 )  
 ( RUN 02 )  
 ( 20 OCT 75 )  
 ( PAGE 25 )

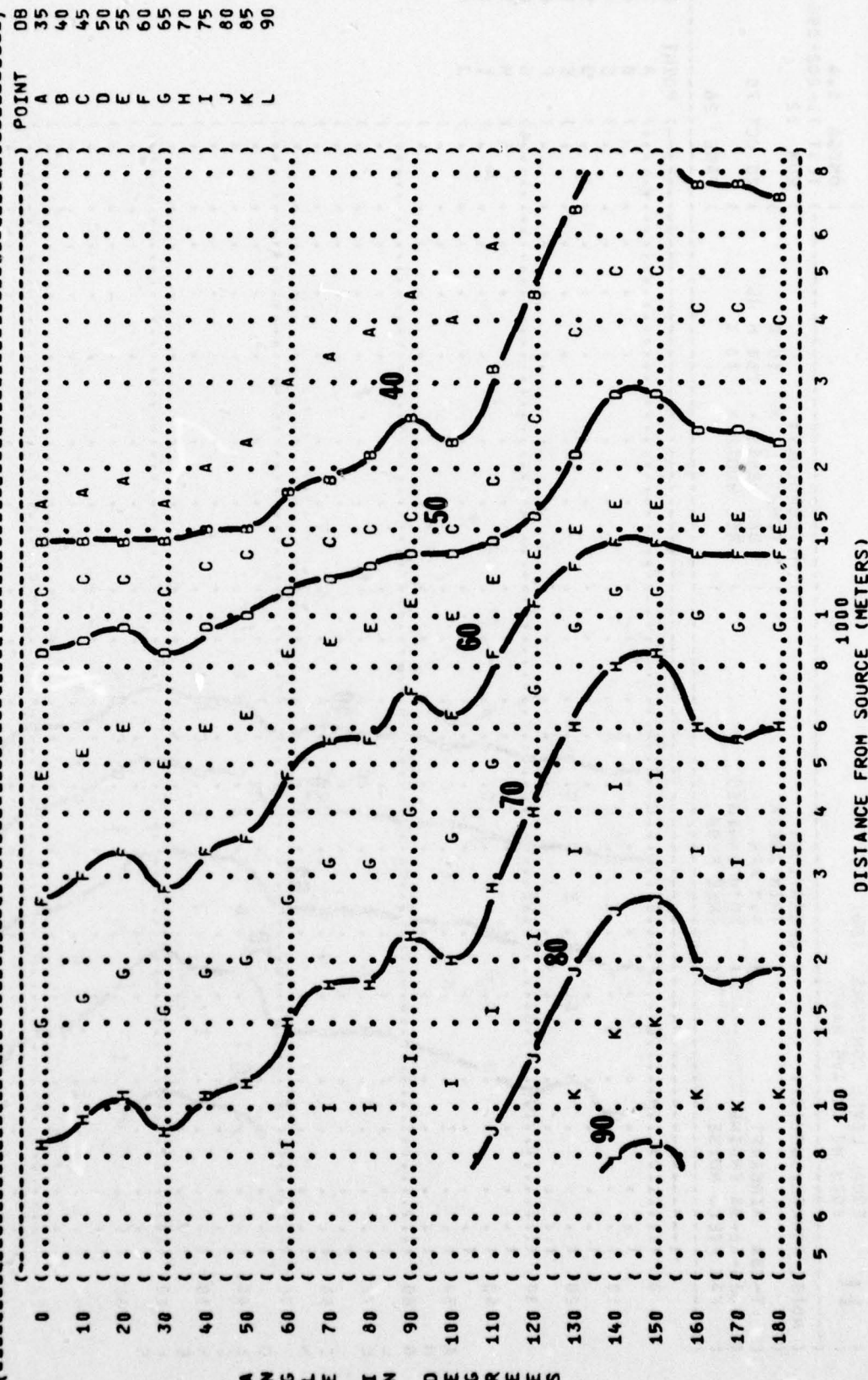


( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 8000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( T-38A AIRCRAFT  
 ( J85-GE-5A ENGINE  
 ( FAR FIELD NOISE  
 ( OPERATION:  
 ( TRIM CHECK  
 ( 94% RPM  
 ( BOTH ENGINES  
 ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-056  
 ( RUN 02  
 ( 20 OCT 75  
 ( PAGE 26





( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 31.5 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( T-38A AIRCRAFT )  
 ( J85-GE-5A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( MILITARY POWER )  
 ( 100% RPM )  
 ( SINGLE ENGINE )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-047 )  
 ( RUN 03 )  
 ( 20 OCT 75 )  
 ( PAGE 18 )



A N G L E I N D E G R E E S

FIGURE 1 SOUND PRESSURE LEVEL (SPL)  
EQUAL LEVEL CONTOURS (DB)  
63 HZ OCTAVE BAND

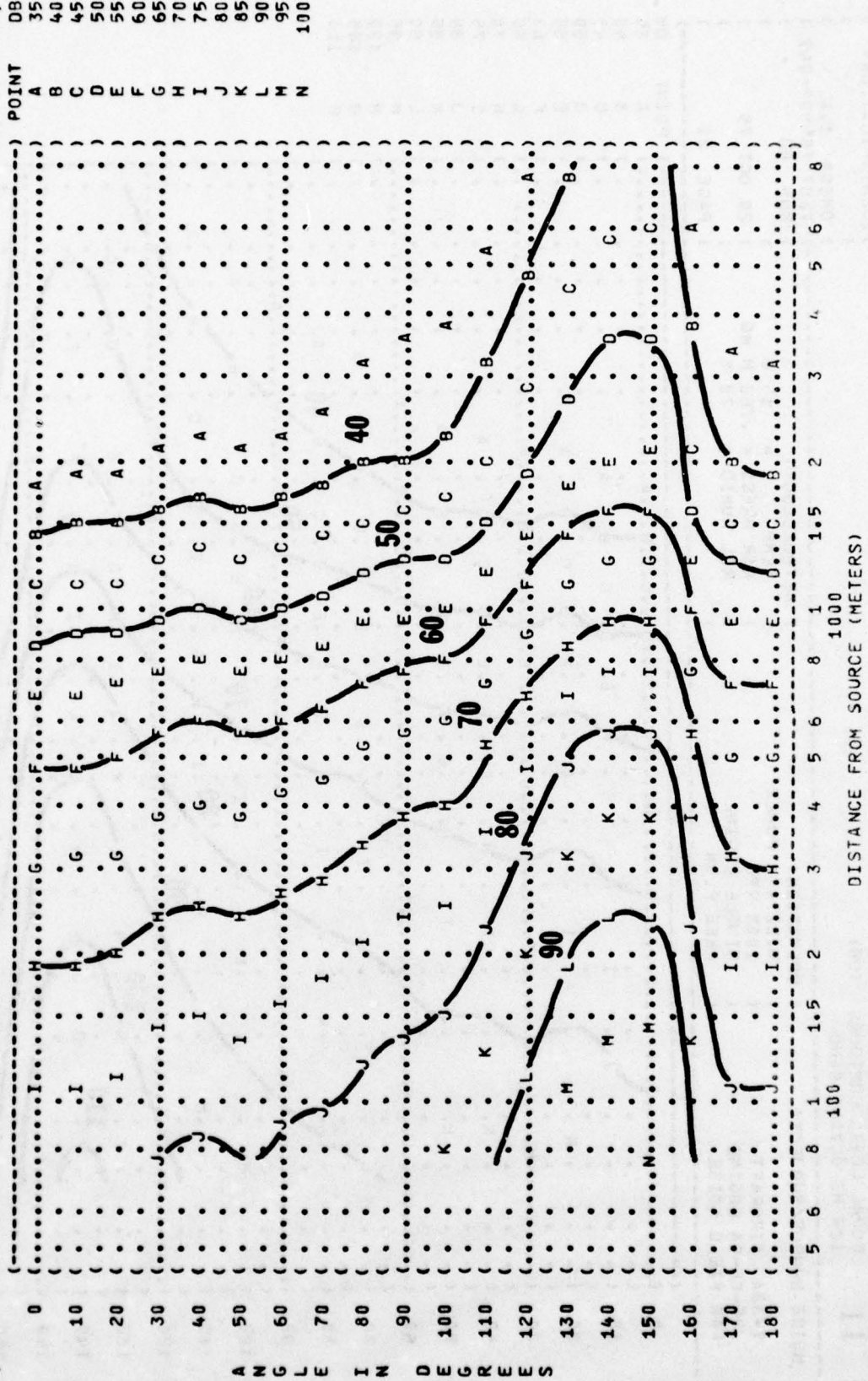
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NOISE SOURCE/SUBJECT: T-38A AIRCRAFT  
J85-GE-5A ENGINE  
FAR FIELD NOISE

OPERATION: MILITARY POWER  
100% RPM  
SINGLE ENGINE  
FREE FLOW

METEOROLOGY: TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %

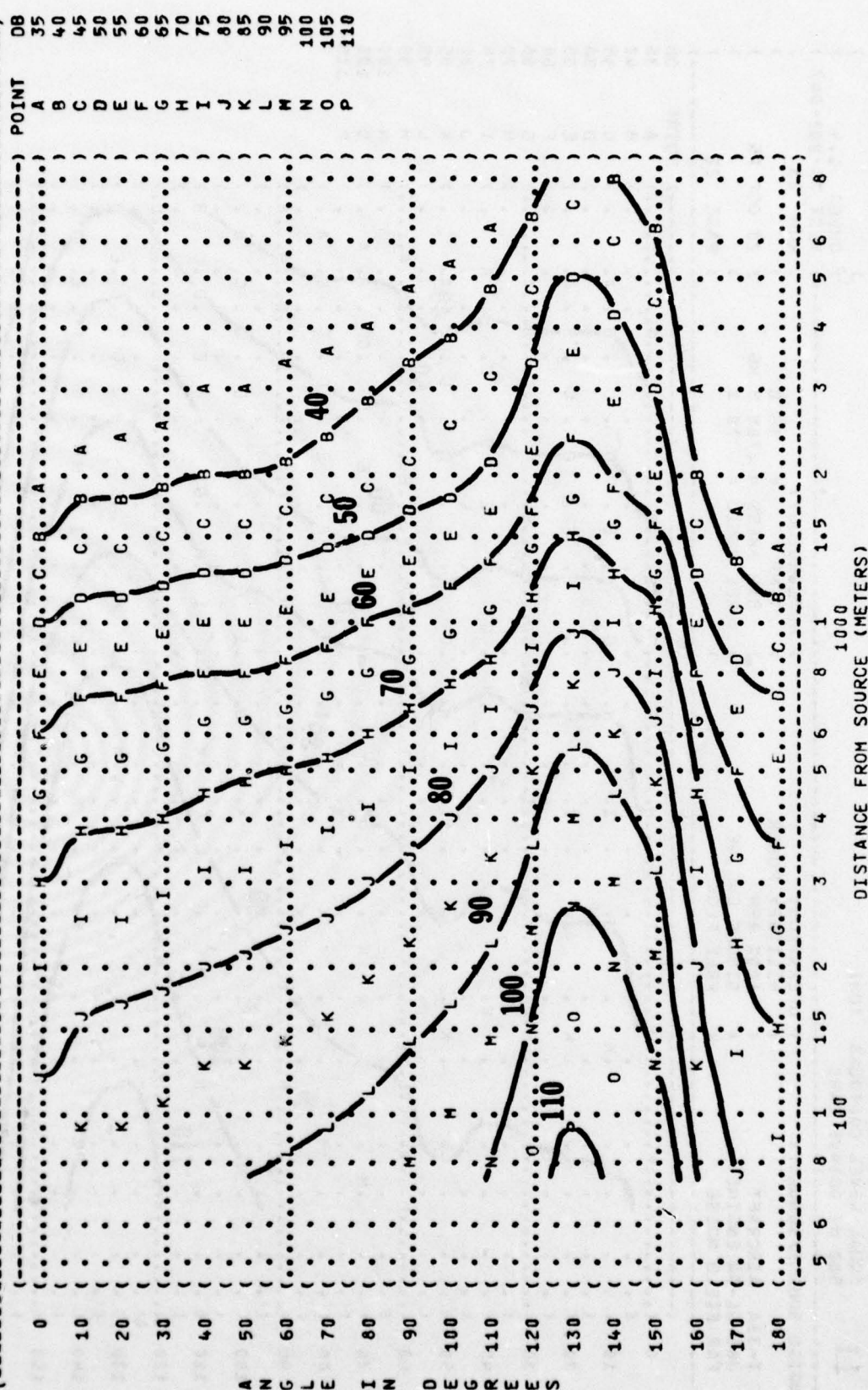
IDENTIFICATION: OMEGA 1.4  
TEST 75-002-047  
RUN 03  
20 OCT 75  
PAGE 19







| FIGURE                | SOUND PRESSURE LEVEL {SPL} | IDENTIFICATION        |
|-----------------------|----------------------------|-----------------------|
| 11                    | EQUAL LEVEL CONTOURS (DB)  |                       |
|                       | 250 HZ OCTAVE BAND         | OMEGA 1.4             |
|                       |                            | TEST 75-002-047       |
| NOISE SOURCE/SUBJECT: | OPERATION:                 | RUN 03                |
| T-38A AIRCRAFT        | MILITARY POWER             |                       |
| J85-GE-5A ENGINE      | 100% RPM                   | TEMP = 15 C           |
| FAR FIELD NOISE       | SINGLE ENGINE              | BAR PRESS = .760 M HG |
|                       | FREE FLOW                  | REL HUMID = 70 %      |
|                       |                            | PAGE 21               |



**FIGURE 11** SOUND PRESSURE LEVEL (SPL) EQUAL LEVEL CONTOURS (DB) 500 HZ OCTAVE BAND

11

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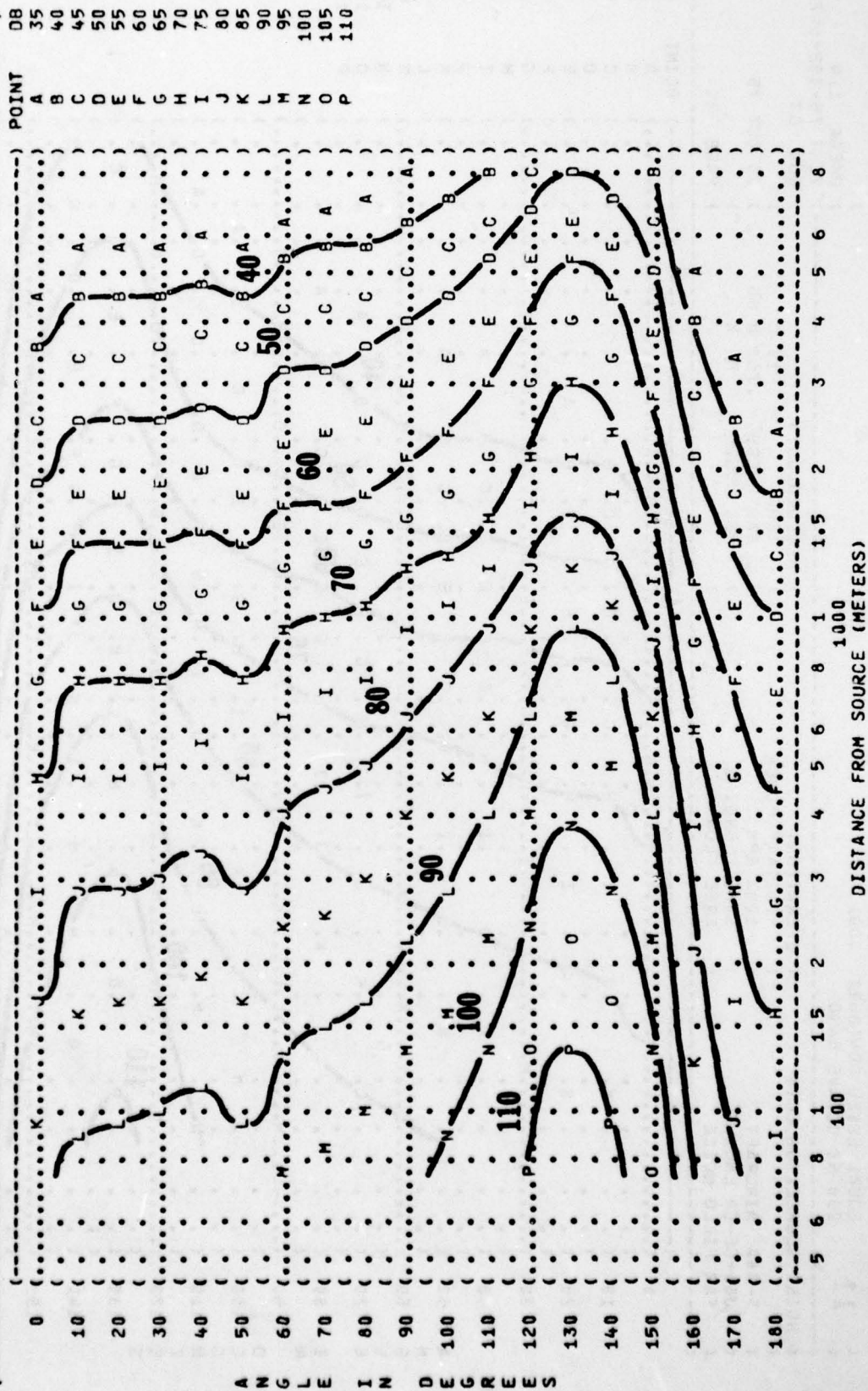
FIGURE: SOUND PRESSURE LEVEL {SPL}
EQUAL LEVEL CONTOURS (DB)
11
500 HZ OCTAVE BAND

-----
NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY:
( MILITARY POWER ) TEMP = 15 C
( 100% RPM ) BAR PRESS = .760 M HG
( SINGLE ENGINE ) REL HUMID = 70 %
( FREE FLOW )

T-38A AIRCRAFT
J85-GE-5A ENGINE
FAR FIELD NOISE

IDENTIFICATION:
)
)
) OMEGA 1.4
) TEST 75-002-047
) RUN 03
)
) 20 OCT 75
)
) PAGE 22

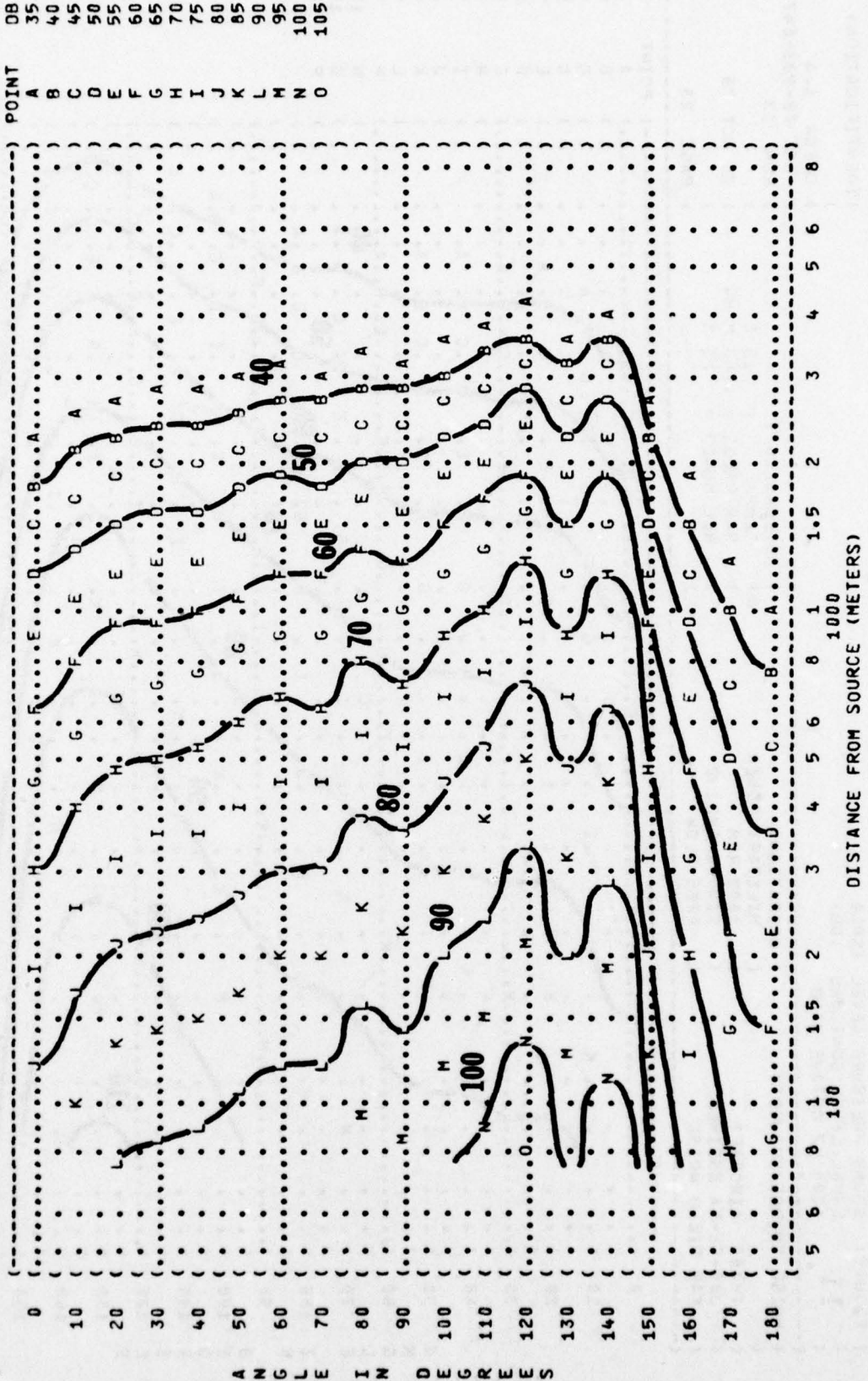
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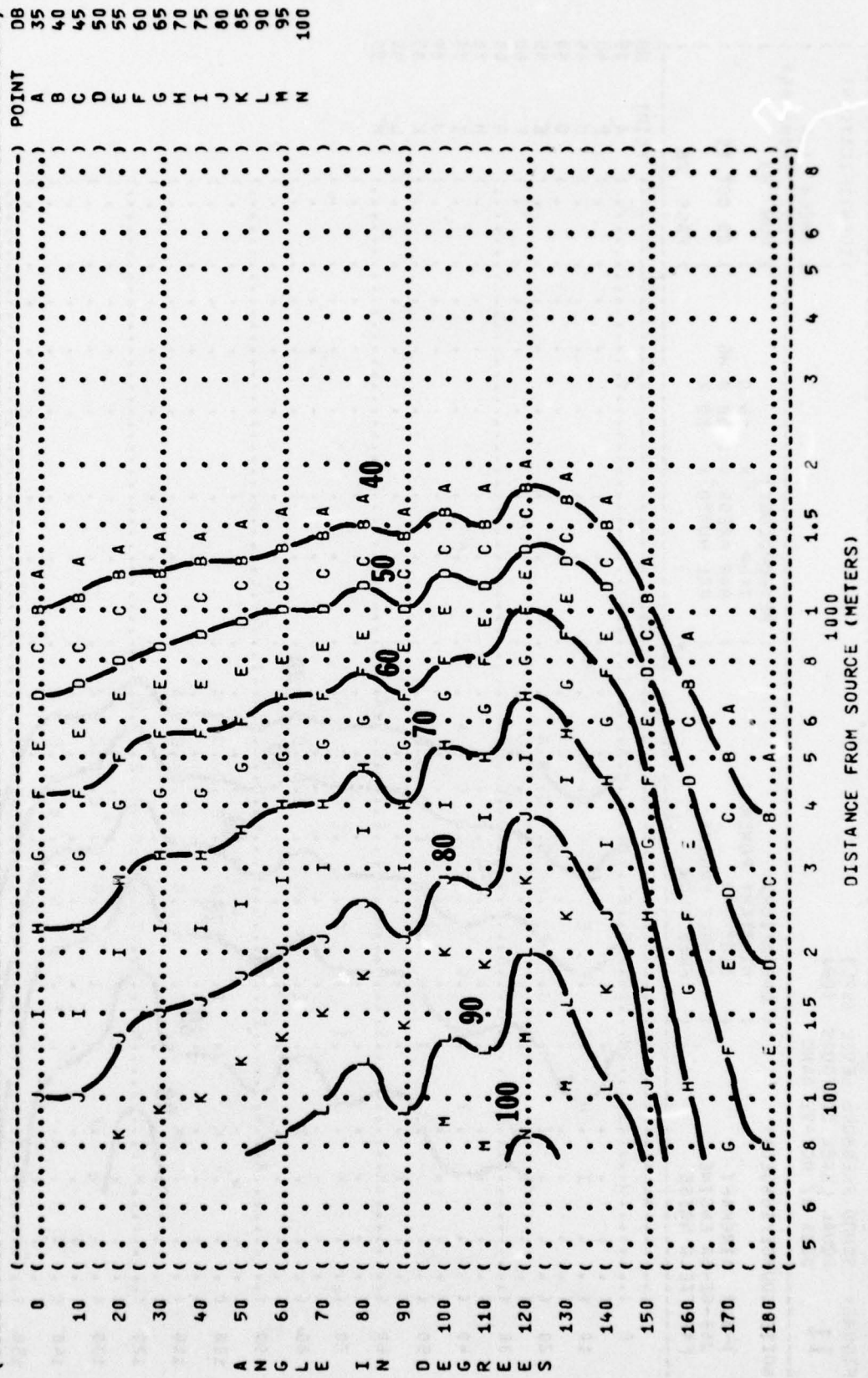




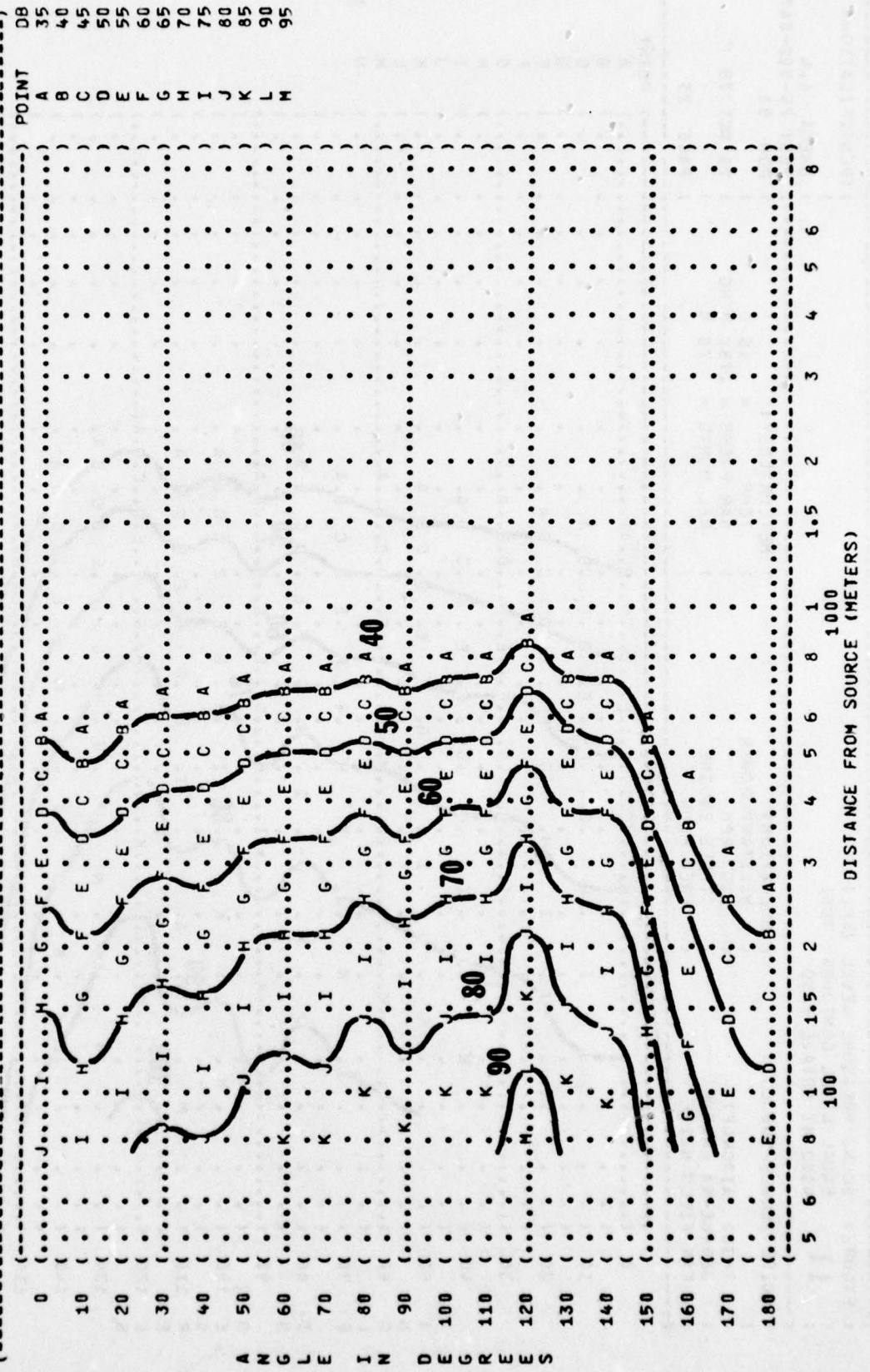
( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 2000 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( T-38A AIRCRAFT )  
 ( J85-GE-5A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( MILITARY POWER )  
 ( 100% RPM )  
 ( SINGLE ENGINE )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-047 )  
 ( RUN 03 )  
 ( 20 OCT 75 )  
 ( PAGE 24 )



( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 4000 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( T-38A AIRCRAFT )  
 ( J85-GE-5A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( MILITARY POWER )  
 ( 100% RPM )  
 ( SINGLE ENGINE )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-302-047 )  
 ( RUN 03 )  
 ( 20 OCT 75 )  
 ( PAGE 25 )



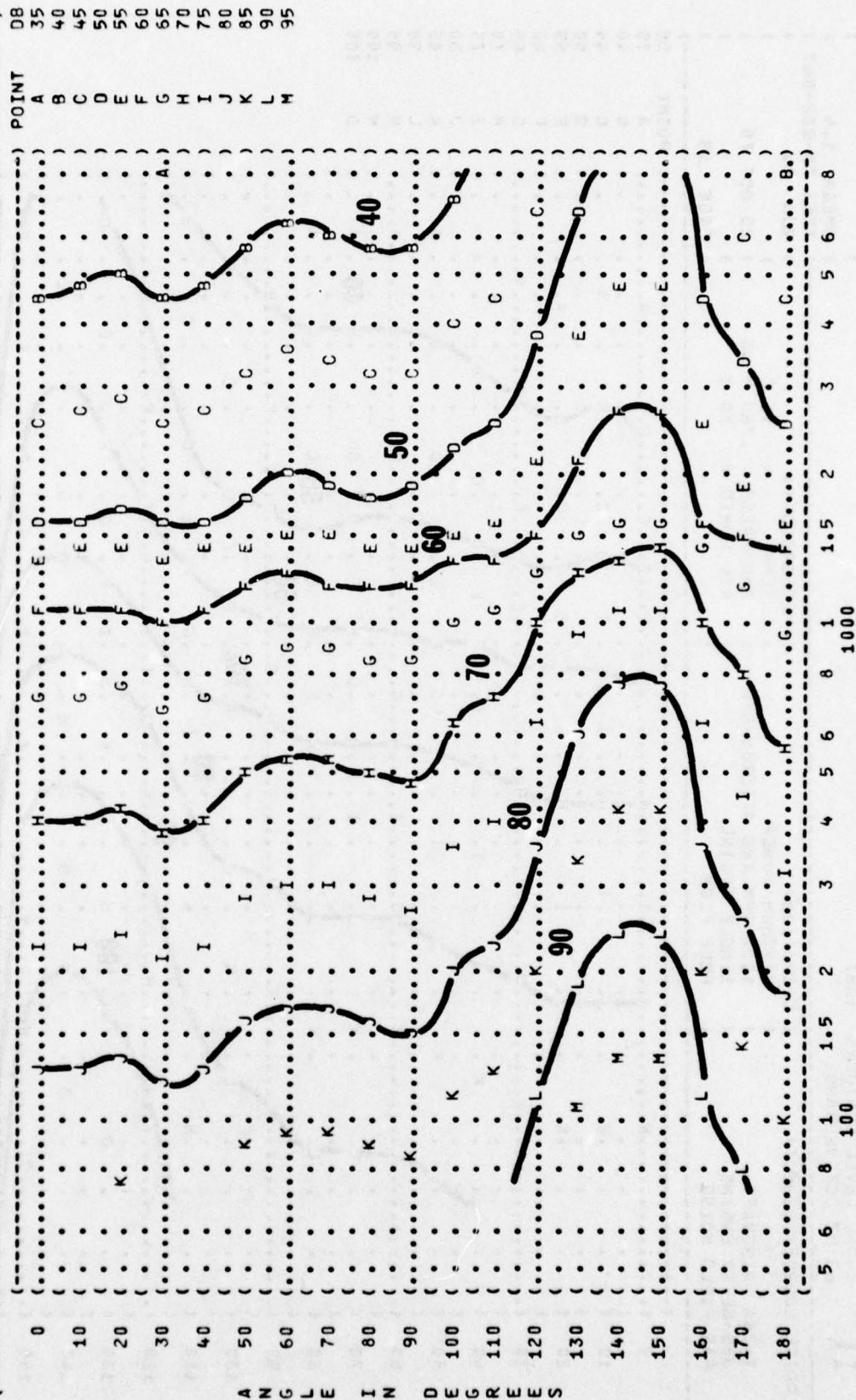
( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 8000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY: ) IDENTIFICATION: )  
 ( T-38A AIRCRAFT ( MILITARY POWER ) TEMP = 15 C ) OMEGA 1.4  
 ( J85-GE-5A ENGINE ( 100% RPM ) BAR PRESS = .760 M HG ) TEST 75-002-047  
 ( FAR FIELD NOISE ( SINGLE ENGINE ) REL HUMID = 70 % ) RUN 03  
 ( ( FREE FLOW ) ) PAGE 26 )



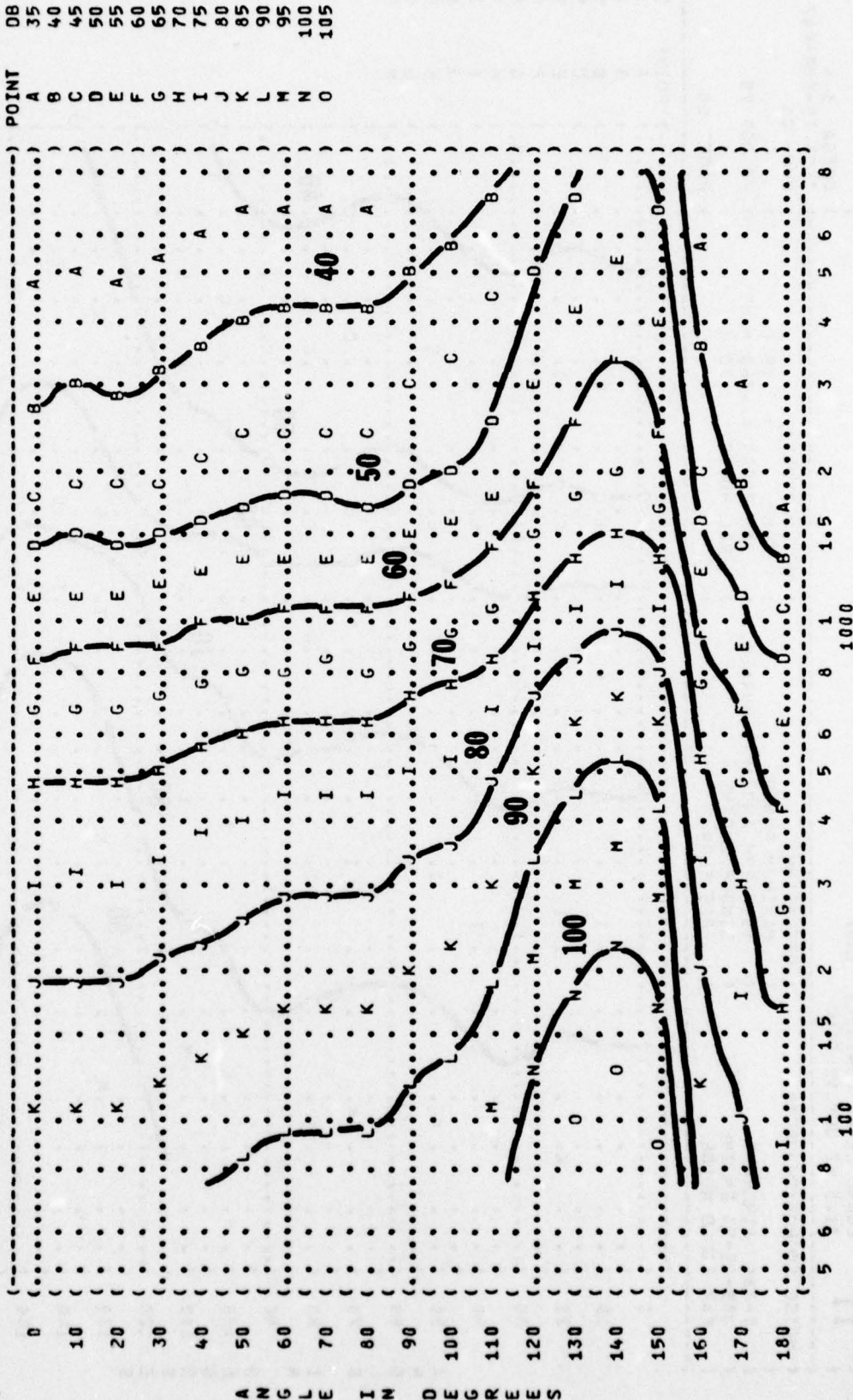
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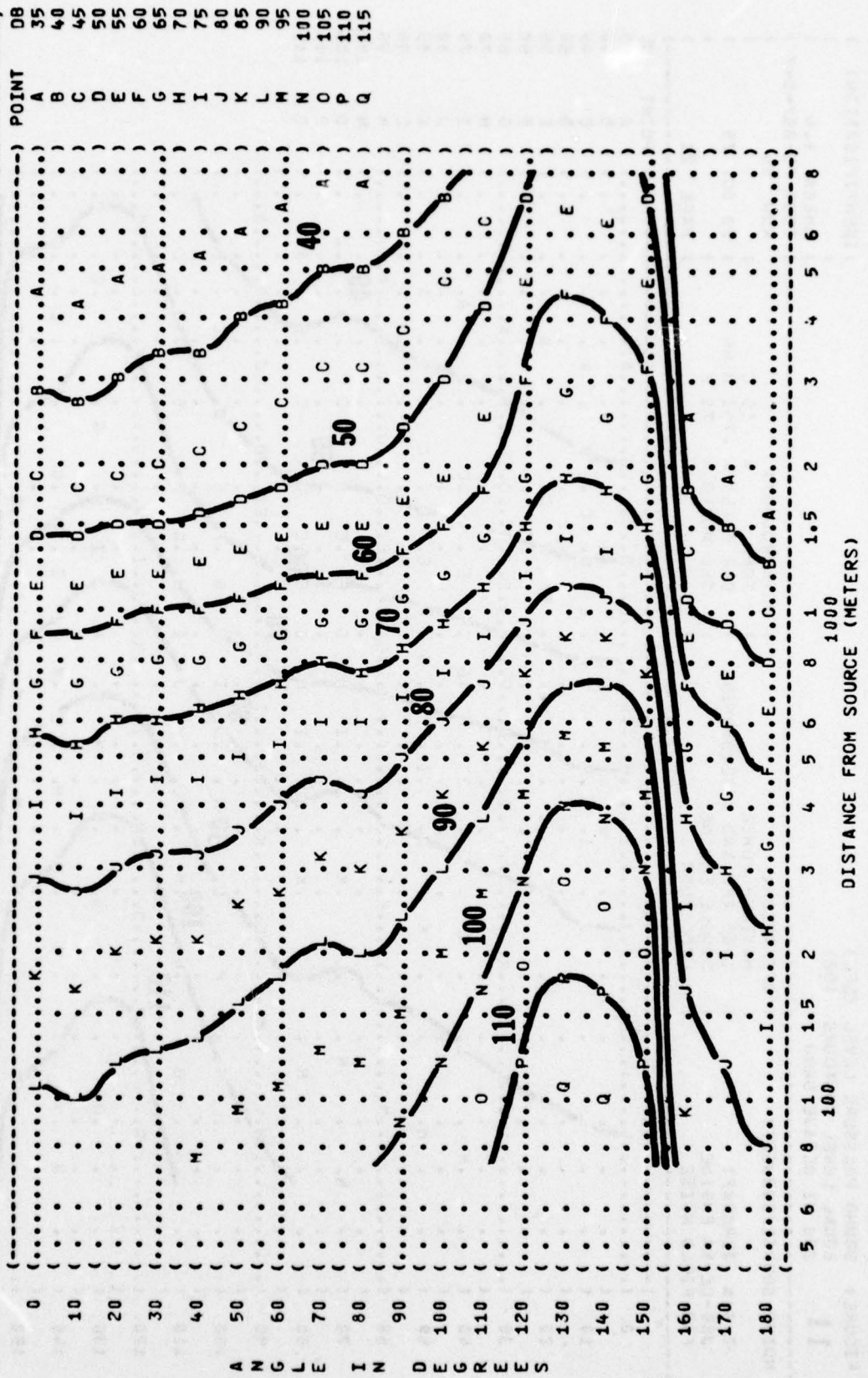
( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 31.5 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( T-38A AIRCRAFT  
 ( J85-GE-5A ENGINE  
 ( FAR FIELD NOISE  
 ( OPERATION:  
 ( MAXIMUM POWER  
 ( 100% RPM AND AFTERBURNER  
 ( SINGLE ENGINE  
 ( FREE FLOW  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-047  
 ( RUN 04  
 ( 20 OCT 75  
 ( PAGE 18



( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 63 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( ( OPERATION:  
 ( ( MAXIMUM POWER  
 ( ( 100% RPM AND AFTERBURNER  
 ( ( SINGLE ENGINE  
 ( ( FREE FLOW  
 ( T-38A AIRCRAFT  
 ( J85-GE-5A ENGINE  
 ( FAR FIELD NOISE  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-047  
 ( RUN 04  
 ( 20 OCT 75  
 ( PAGE 19



( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 125 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( T-38A AIRCRAFT )  
 ( J85-GE-5A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( MAXIMUM POWER )  
 ( 100% RPM AND AFTERBURNER )  
 ( SINGLE ENGINE )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-047 )  
 ( RUN 04 )  
 ( 20 OCT 75 )  
 ( PAGE 20 )





( FIGURE: SOUND PRESSURE LEVEL (SPL) ) IDENTIFICATION: )  
 ( 11 ) EQUAL LEVEL CONTOURS (DB) )  
 ( 250 HZ OCTAVE BAND ) OMEGA 1.4 )  
 ( ) TEST 75-002-047 )  
 ( NOISE SOURCE/SUBJECT: ) OPERATION: ) METEOROLOGY: ) RUN 04 )  
 ( ) MAXIMUM POWER ) TEMP = 15 C )  
 ( T-39A AIRCRAFT ) 100% RPM AND AFTERBURNER ) BAR PRESS = .760 M HG )  
 ( J85-GE-5A ENGINE ) SINGLE ENGINE ) REL HUMID = 70 % )  
 ( FAR FIELD NOISE ) FREE FLOW )  
 ( ) PAGE 21 )

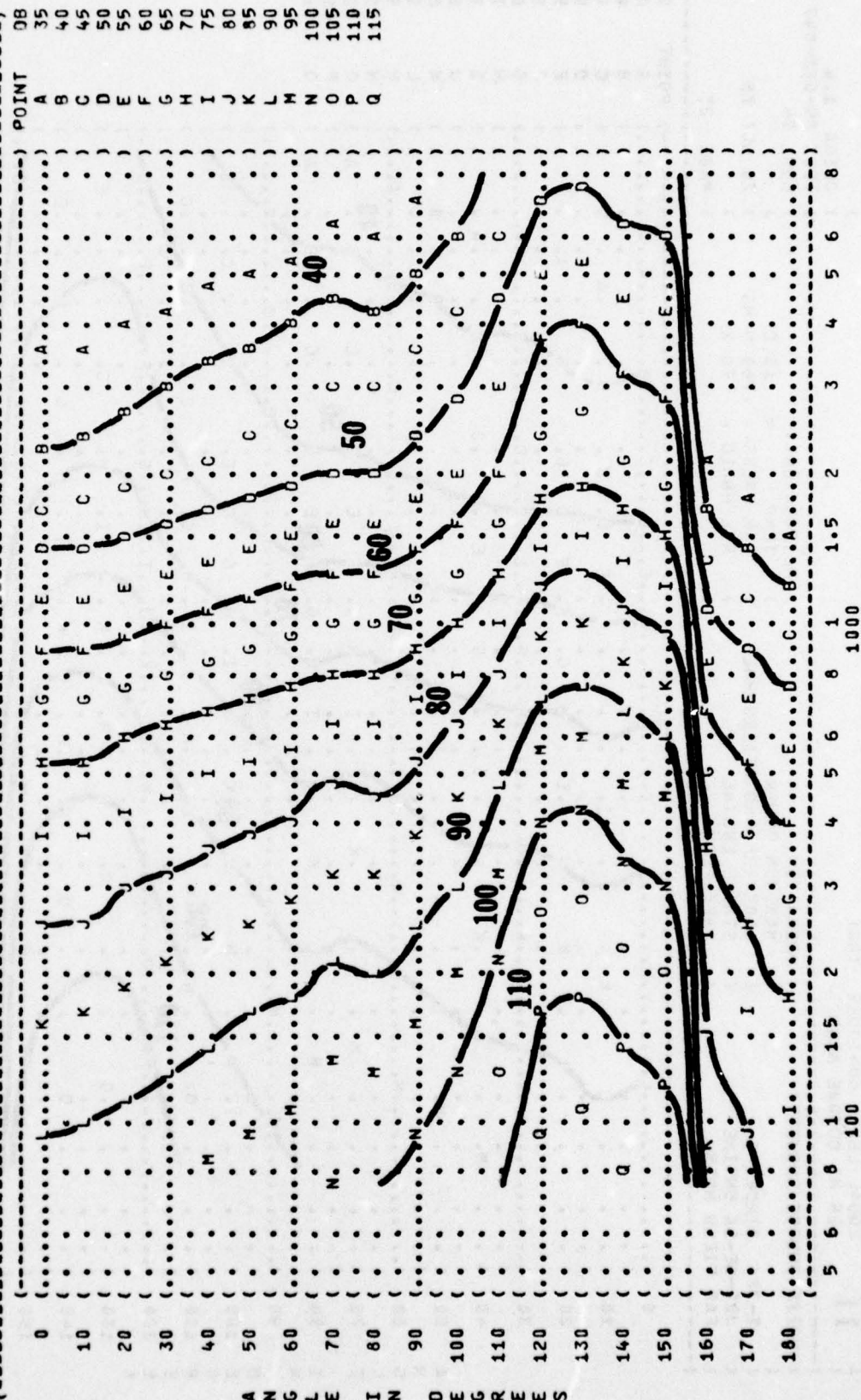
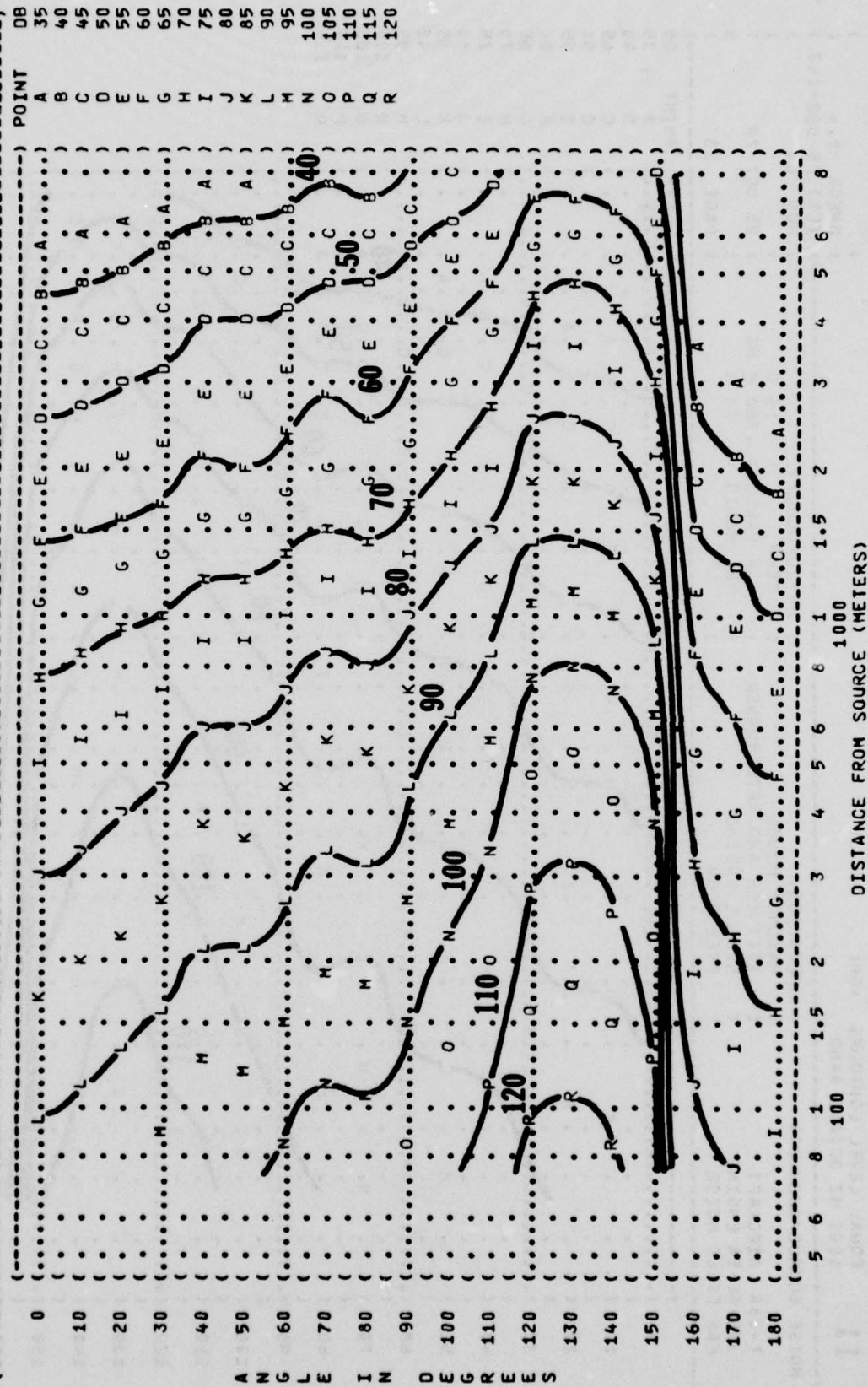


FIGURE: SOUND PRESSURE LEVEL (SPL)  
EQUAL LEVEL CONTOURS (DB)  
500 HZ OCTAVE BAND

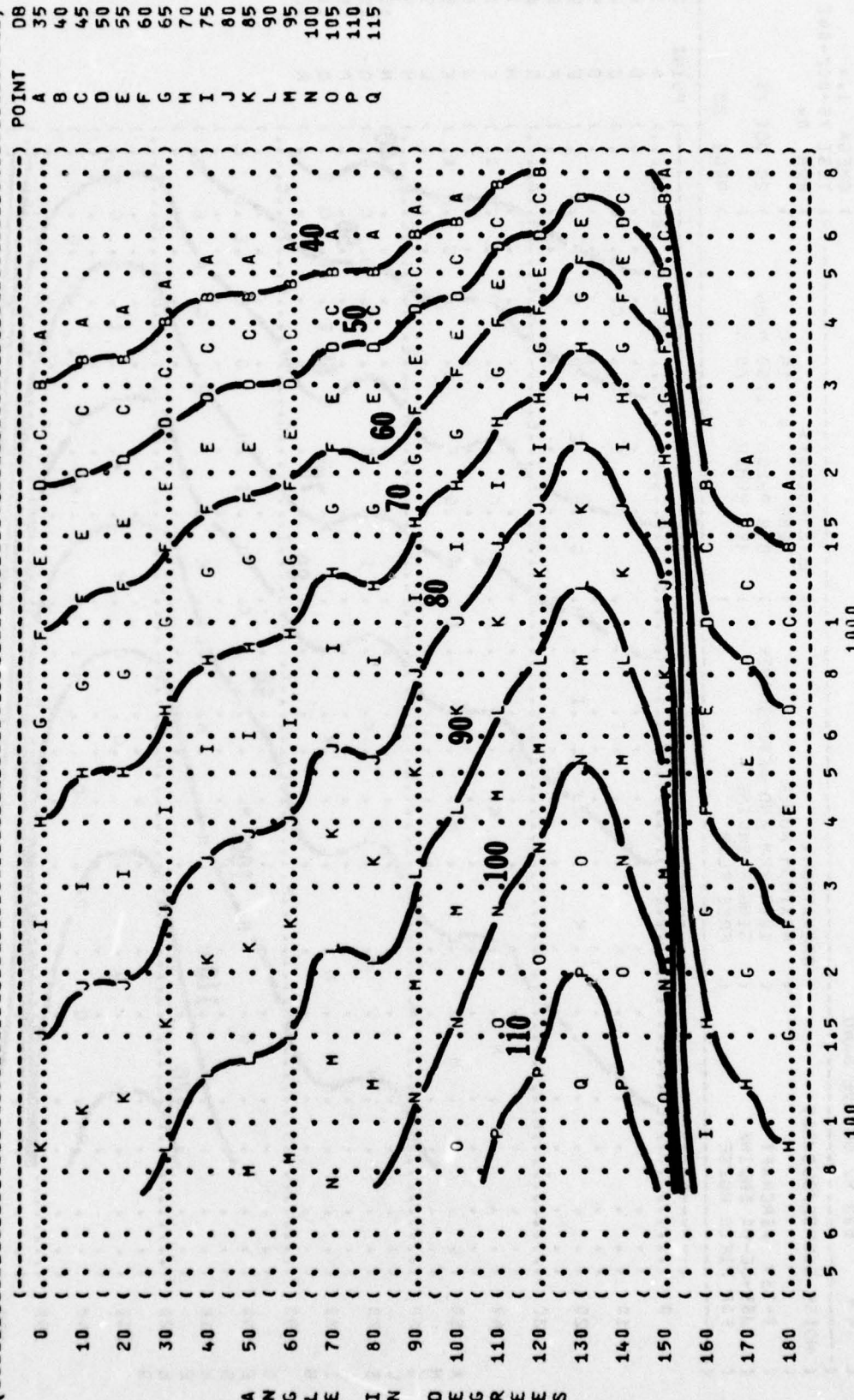
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IDENTIFICATION:  
OMEGA 1.4  
TEST 75-002-047  
RUN 04  
METEOROLOGY:  
TEMP = 15 C  
BAR PRESS = .760 M HG  
REL HUMID = 70 %  
OPERATION:  
MAXIMUM POWER  
100% RPM AND AFTERBURNER  
SINGLE ENGINE  
FREE FLOW  
T-38A AIRCRAFT  
J85-GE-5A ENGINE  
FAR FIELD NOISE  
20 OCT 75  
PAGE 22



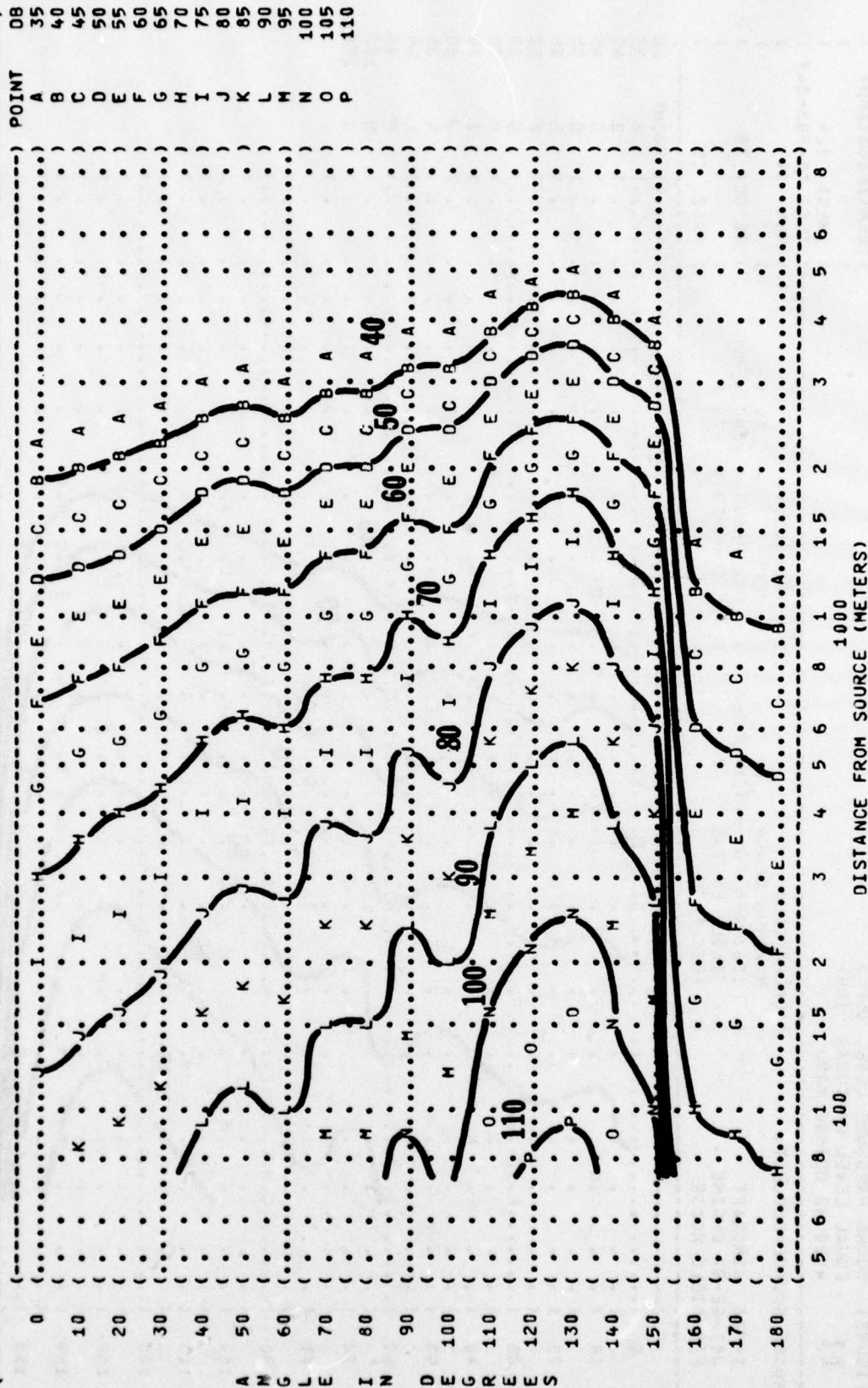


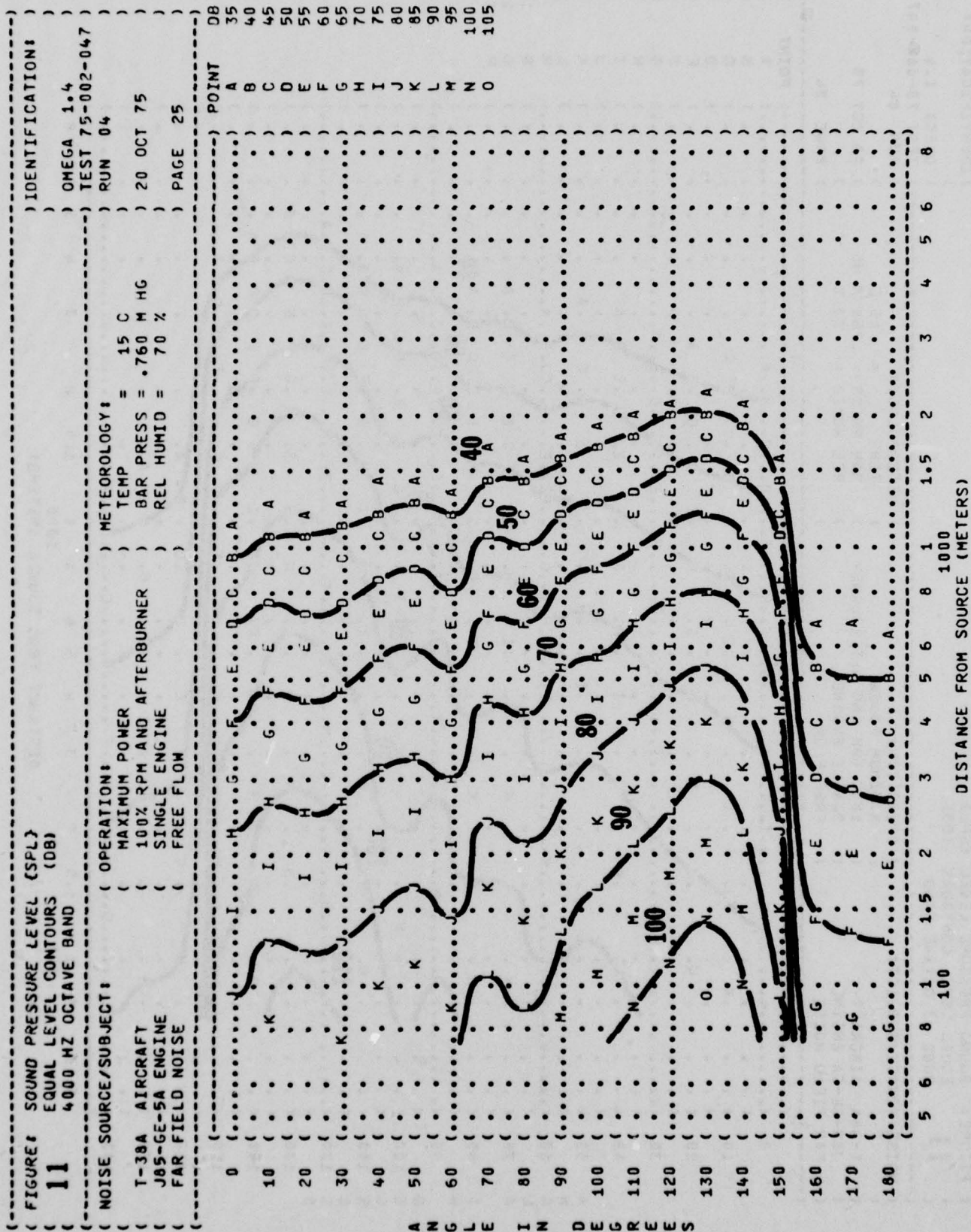
( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 1000 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( T-39A AIRCRAFT )  
 ( J85-GE-5A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( MAXIMUM POWER )  
 ( 100% RPM AND AFTERBURNER )  
 ( SINGLE ENGINE )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-047 )  
 ( RUN 04 )  
 ( 20 OCT 75 )  
 ( PAGE 23 )





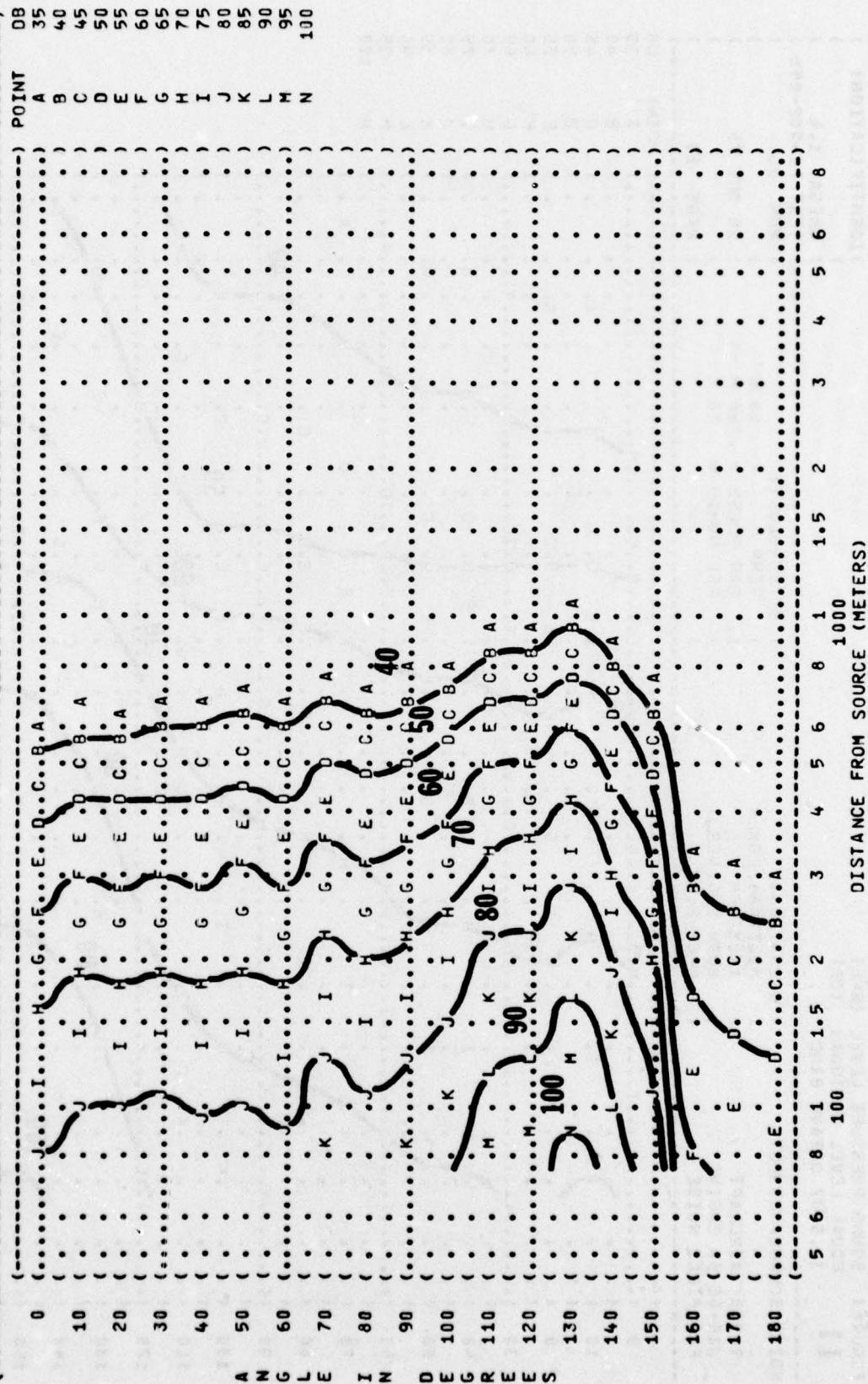
( FIGURE: SOUND PRESSURE LEVEL (SPL) ) IDENTIFICATION: )  
 ( 11 ) EQUAL LEVEL CONTOURS (DB) )  
 ( 2000 HZ OCTAVE BAND ) OMEGA 1.4 )  
 ( ) TEST 75-002-047 )  
 ( NOISE SOURCE/SUBJECT: ) OPERATION: ) METEOROLOGY: )  
 ( ) MAXIMUM POWER ) TEMP = 15 C )  
 ( T-38A AIRCRAFT ) 100% RPM AND AFTERBURNER ) BAR PRESS = .760 M HG )  
 ( J85-GE-5A ENGINE ) SINGLE ENGINE ) REL HUMID = 70 % )  
 ( FAR FIELD NOISE ) FREE FLOW )  
 ( ) PAGE 24 )







( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 8000 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( T-38A AIRCRAFT )  
 ( J85-GE-5A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( MAXIMUM POWER )  
 ( 100% RPM AND AFTERBURNER )  
 ( SINGLE ENGINE )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-047 )  
 ( RUN 04 )  
 ( 20 OCT 75 )  
 ( PAGE 26 )





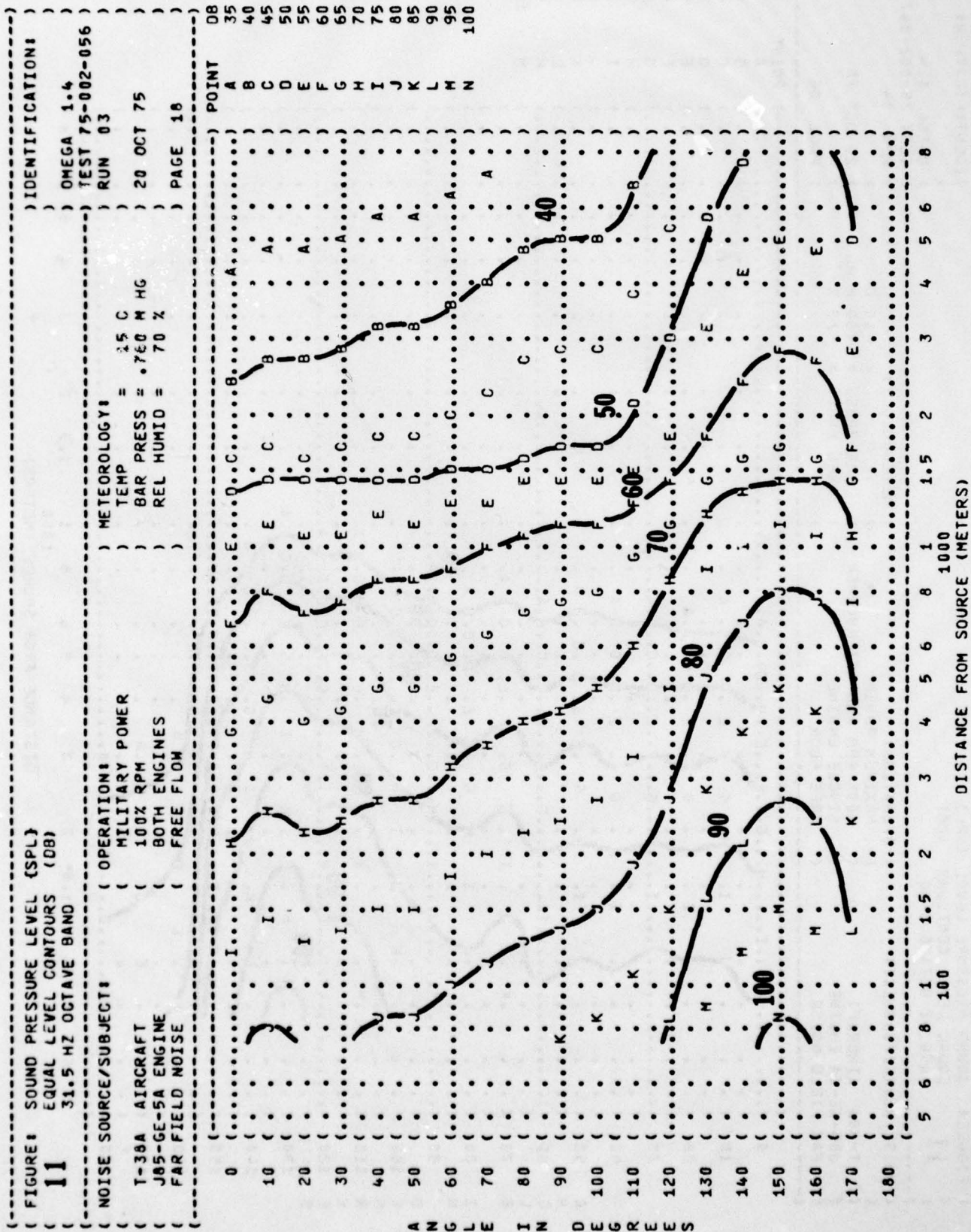
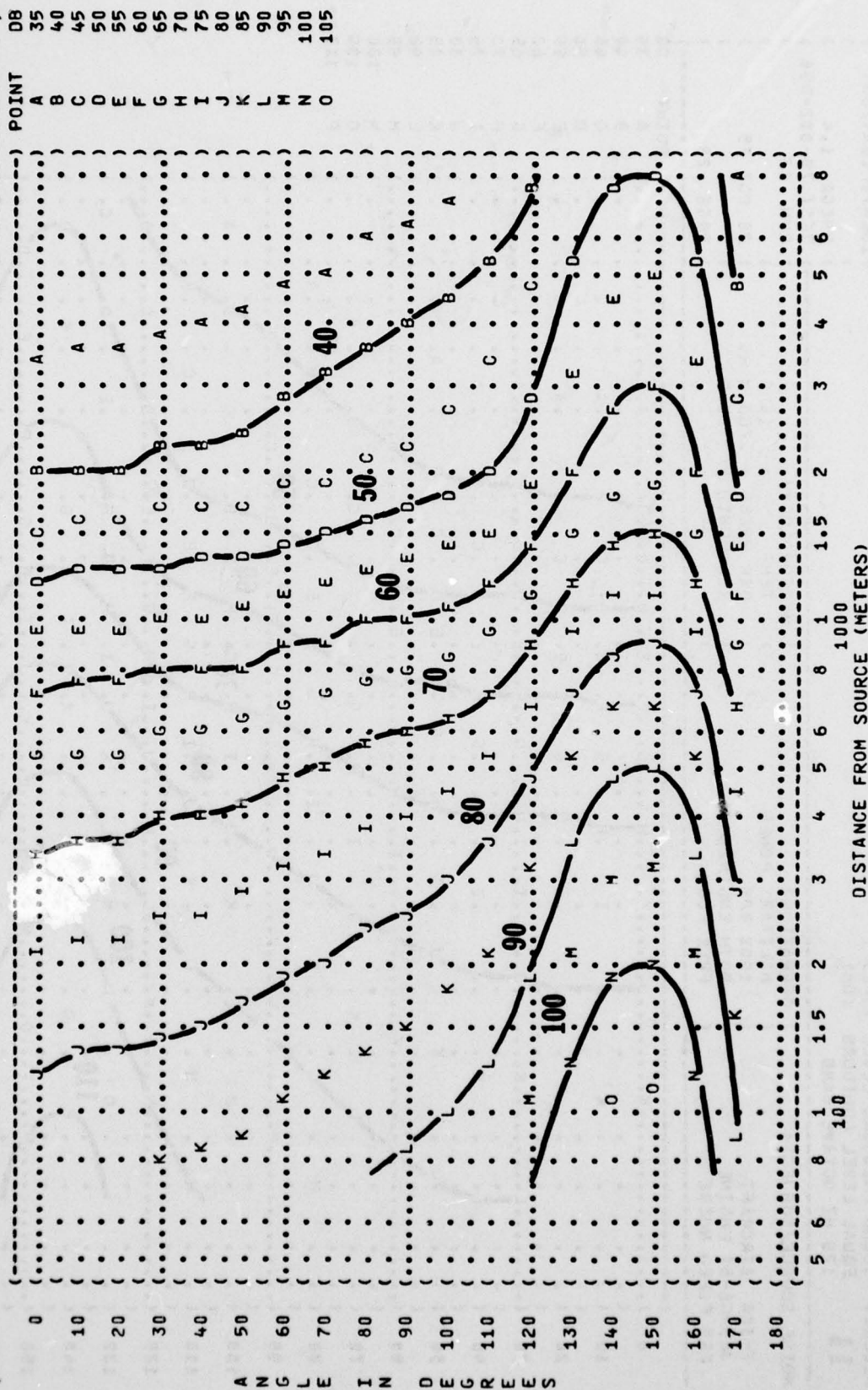


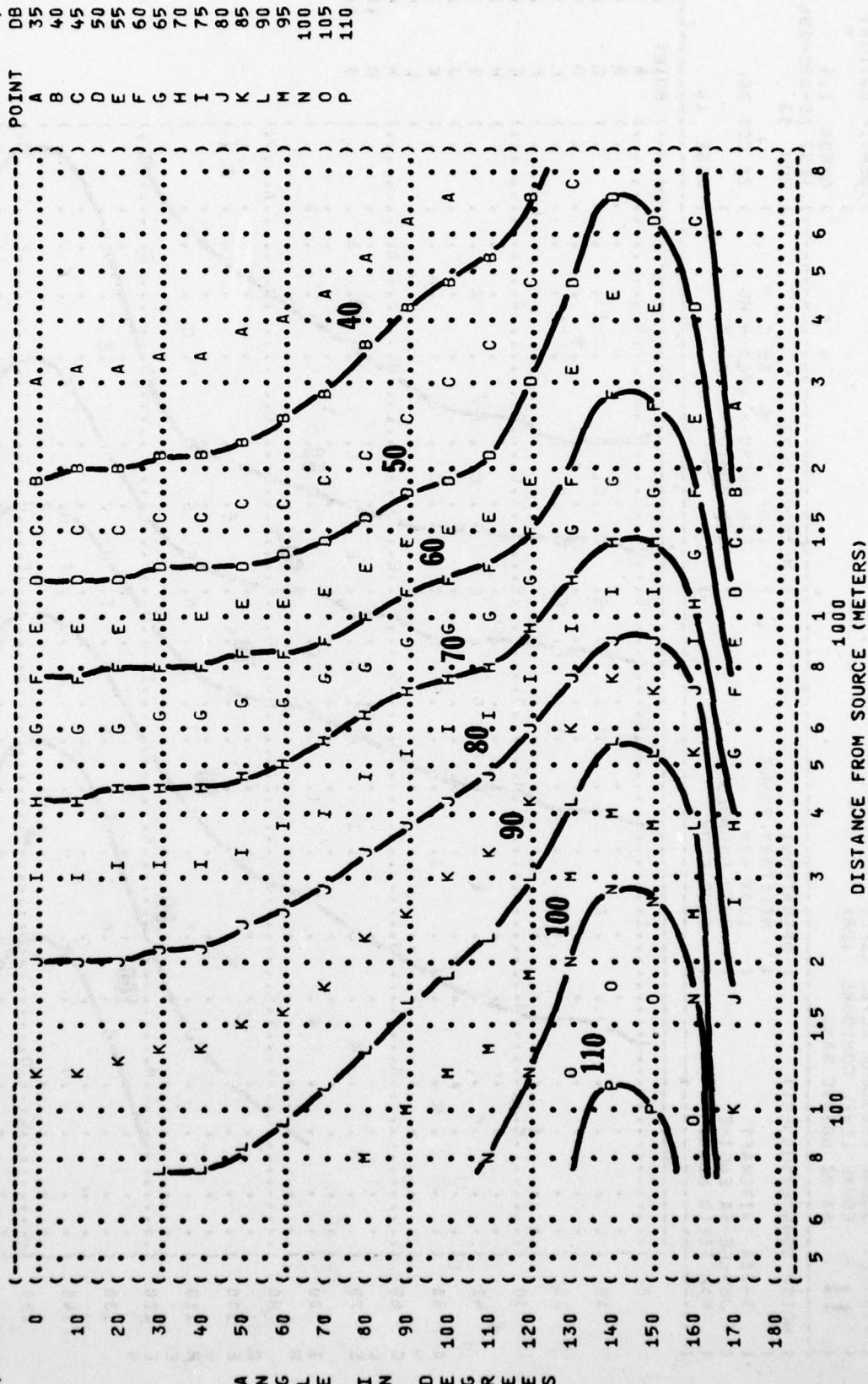
FIGURE 1 SOUND PRESSURE LEVEL (SPL)  
EQUAL LEVEL CONTOURS (DB)  
63 HZ OCTAVE BAND

11

IDENTIFICATION: )  
OMEGA 1.4 )  
TEST 75-002-056 )  
RUN 03 )  
METEOROLOGY: )  
TEMP = 15 C )  
BAR PRESS = .760 M HG )  
REL HUMID = 70 % )  
20 OCT 75 )  
PAGE 19 )

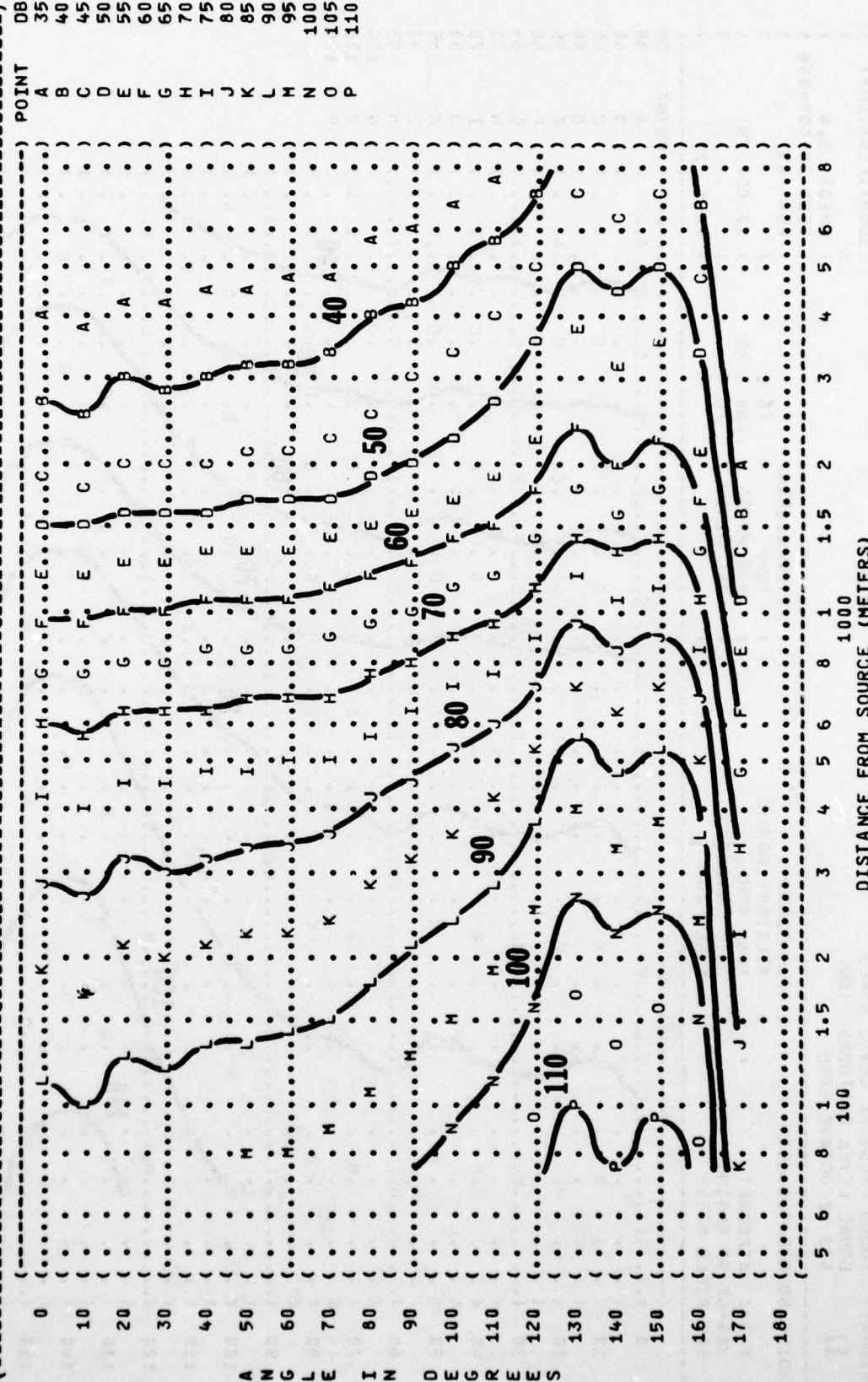


( FIGURE: SOUND PRESSURE LEVEL {SPL} )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 125 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( ( OPERATION: )  
 ( ( MILITARY POWER )  
 ( ( 100% RPM )  
 ( ( BOTH ENGINES )  
 ( ( FREE FLOW )  
 ( T-38A AIRCRAFT )  
 ( J85-GE-5A ENGINE )  
 ( FAR FIELD NOISE )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-056 )  
 ( RUN 03 )  
 ( 20 OCT 75 )  
 ( PAGE 20 )

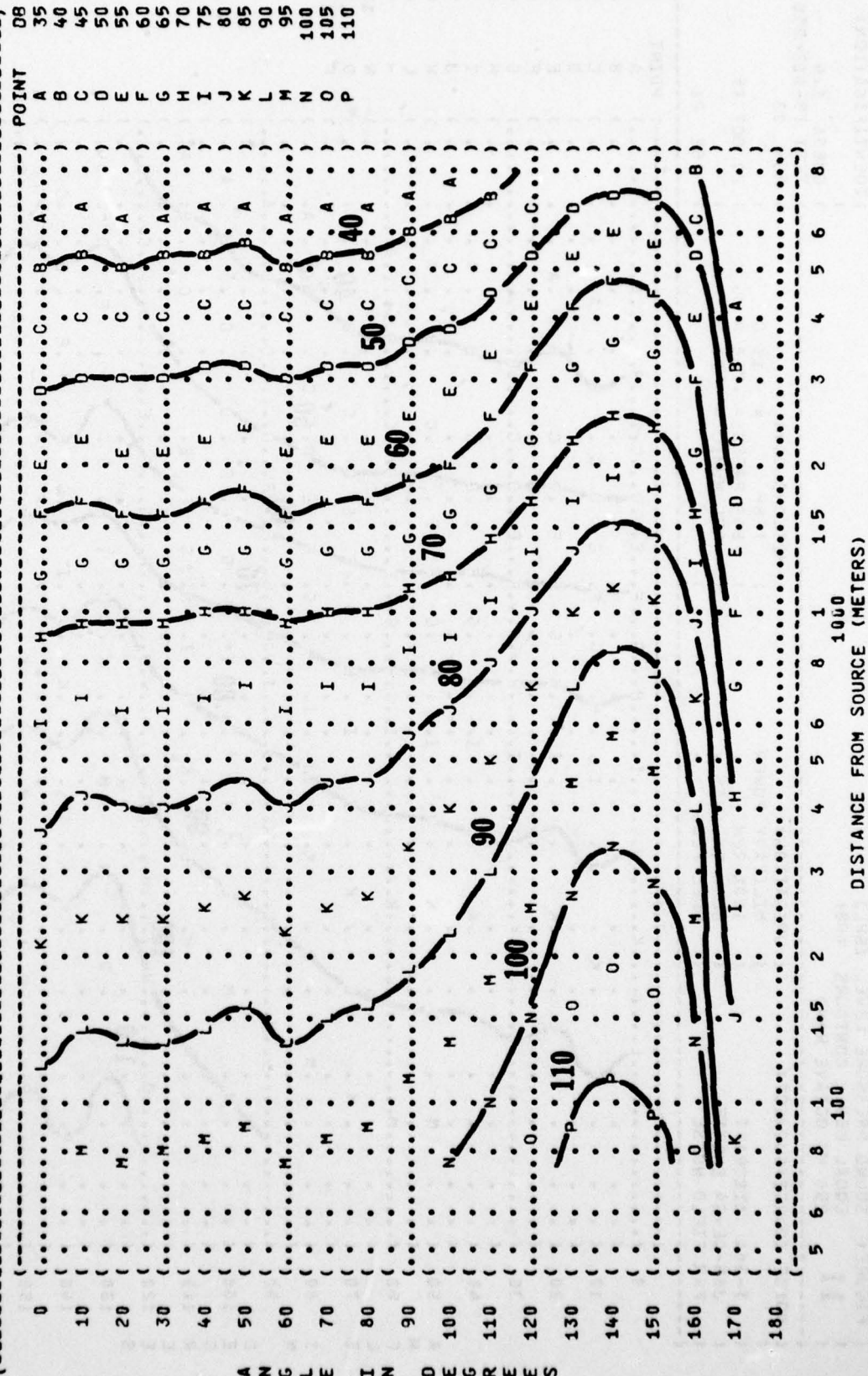




( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 250 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( T-38A AIRCRAFT )  
 ( J85-GE-5A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( MILITARY POWER )  
 ( 100% RPM )  
 ( BOTH ENGINES )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-056 )  
 ( RUN 03 )  
 ( 20 OCT 75 )  
 ( PAGE 21 )

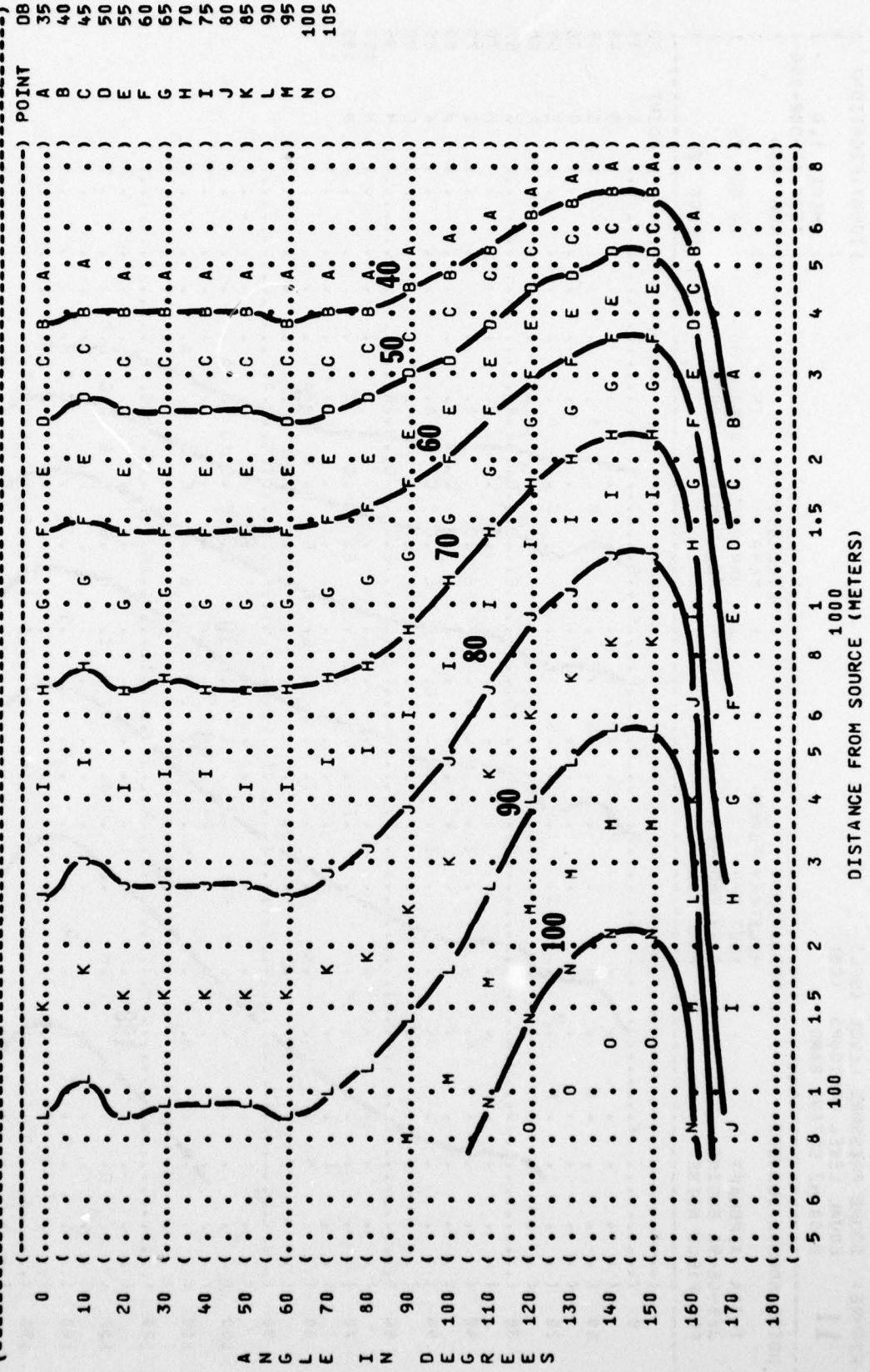


( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 )  
 ( 500 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( T-38A AIRCRAFT )  
 ( J85-GE-5A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATIONS: )  
 ( MILITARY POWER )  
 ( 100% RPM )  
 ( BOTH ENGINES )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-056 )  
 ( RUN 03 )  
 ( 20 OCT 75 )  
 ( PAGE 22 )



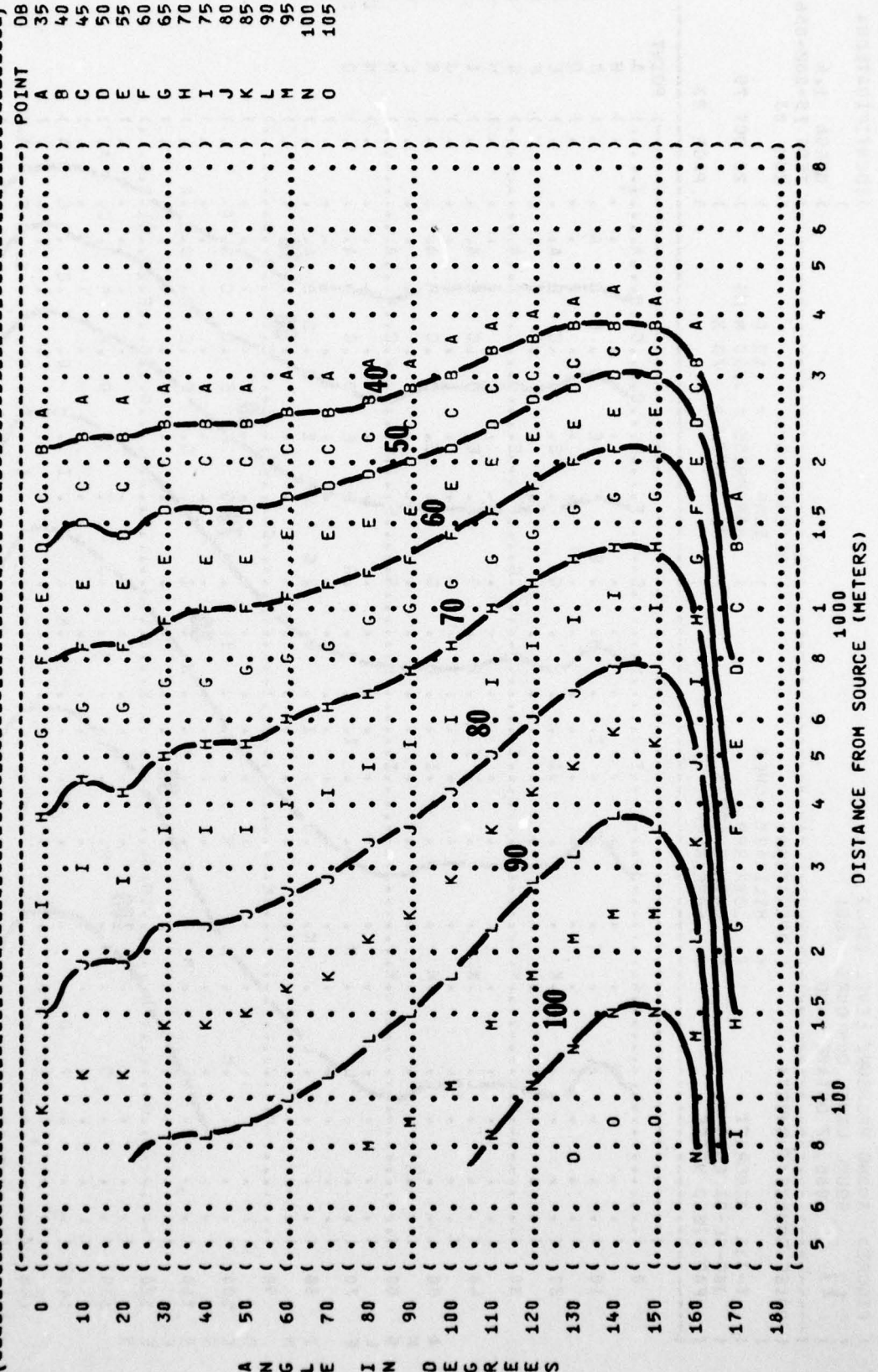


( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 1000 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( T-38A AIRCRAFT )  
 ( J85-GE-5A ENGINE )  
 ( FAR FIELD NOISE )  
 ( OPERATION: )  
 ( MILITARY POWER )  
 ( 100% RPM )  
 ( BOTH ENGINES )  
 ( FREE FLOW )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-056 )  
 ( RUN 03 )  
 ( 20 OCT 75 )  
 ( PAGE 23 )





( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 2000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( ( OPERATION:  
 ( ( MILITARY POWER  
 ( ( 100% RPM  
 ( ( BOTH ENGINES  
 ( ( FREE FLOW  
 ( T-38A AIRCRAFT  
 ( J85-GE-5A ENGINE  
 ( FAR FIELD NOISE  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-056  
 ( RUN 03  
 ( 20 OCT 75  
 ( PAGE 24



A N G L E I N D E G R E E S

FIGURE: SOUND PRESSURE LEVEL (SPL)  
EQUAL LEVEL CONTOURS (DB)  
4000 HZ OCTAVE BAND

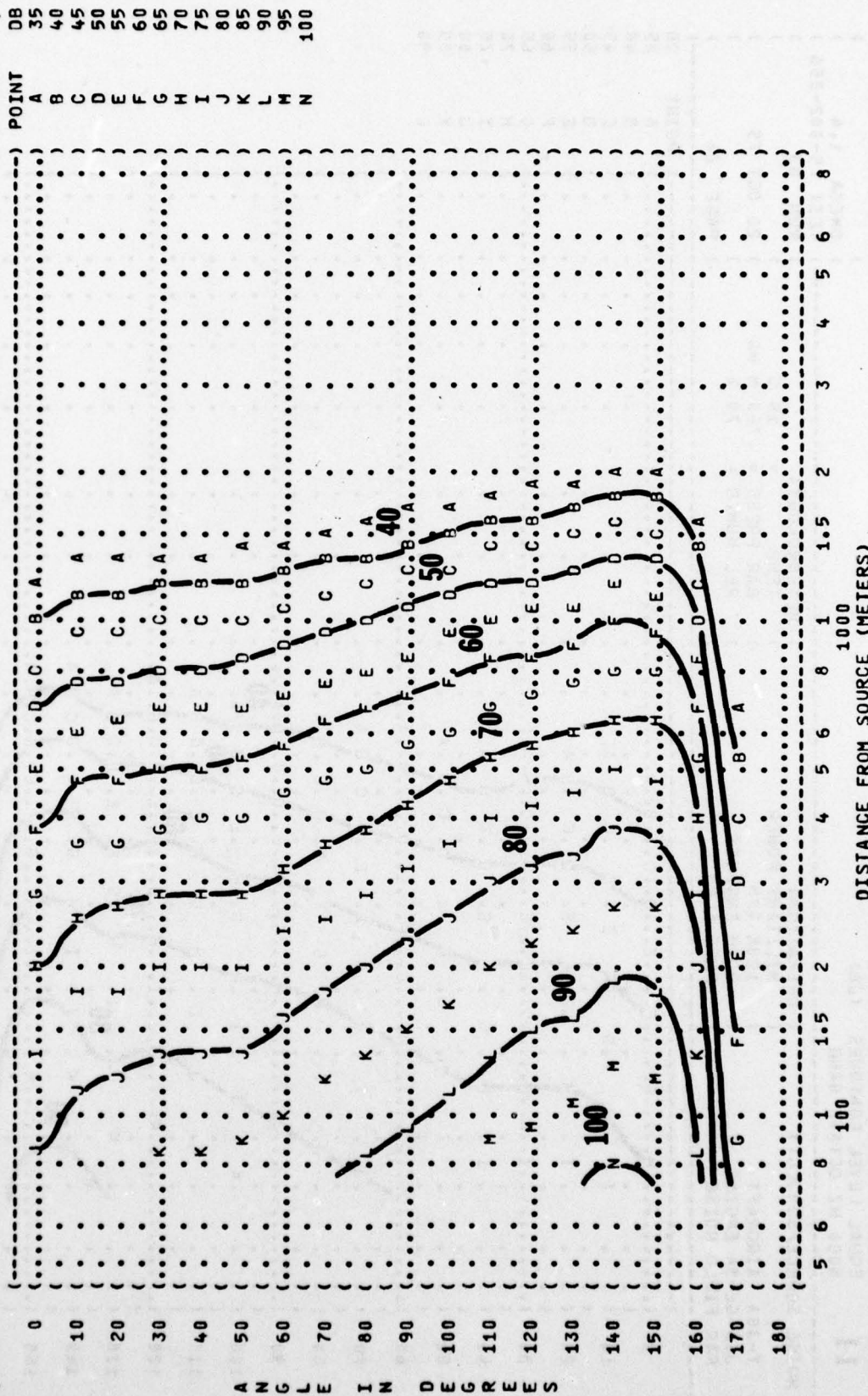
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NOISE SOURCE/SUBJECT:  
( T-38A AIRCRAFT  
( J95-GE-5A ENGINE  
( FAR FIELD NOISE

OPERATION:  
( MILITARY POWER  
( 100% RPM  
( BOTH ENGINES  
( FREE FLOW

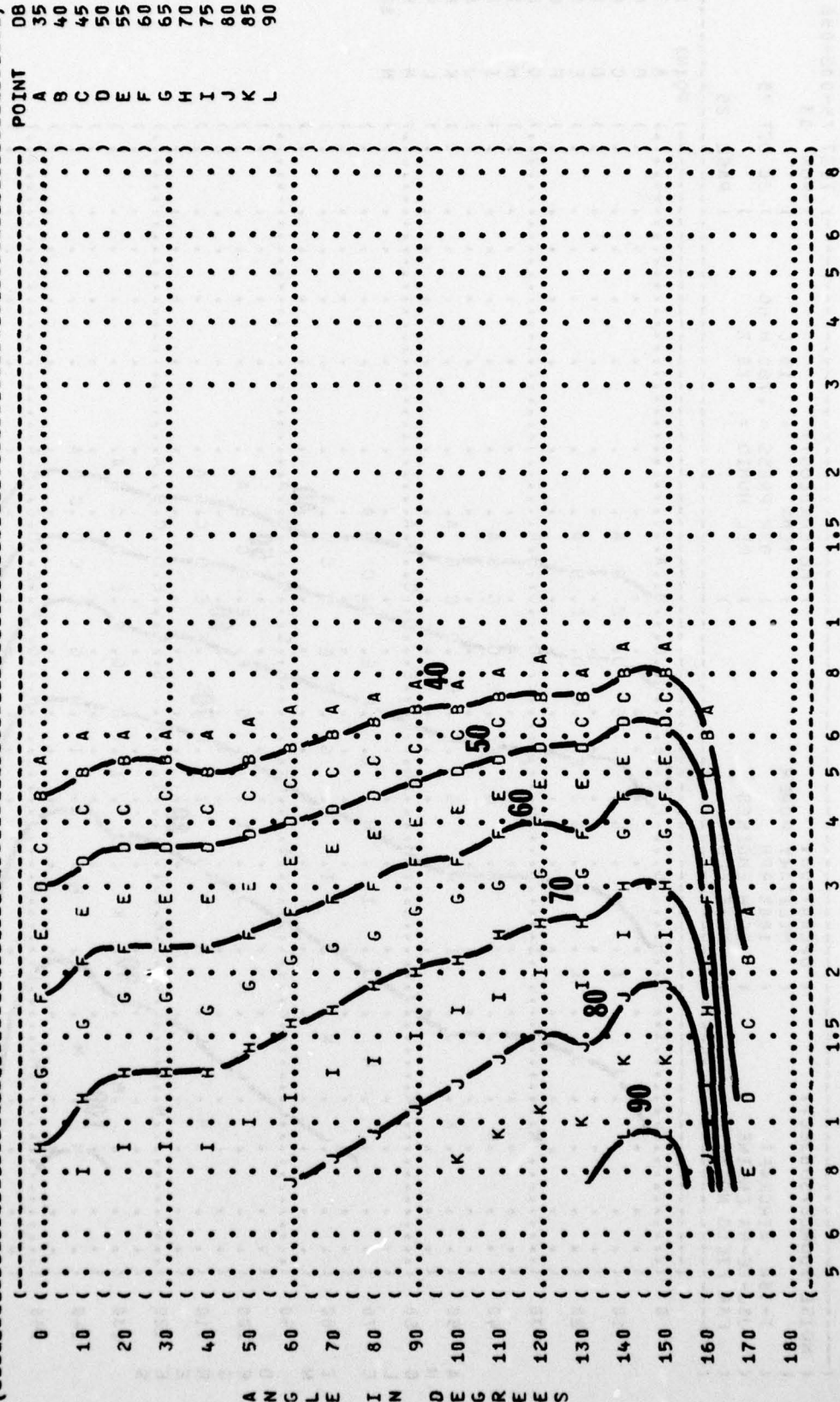
METEOROLOGY:  
( TEMP = 15 C  
( BAR PRESS = .760 M HG  
( REL HUMID = 70 %

IDENTIFICATION:  
( OMEGA 1.4  
( TEST 75-002-056  
( RUN 03  
( 20 OCT 75  
( PAGE 25





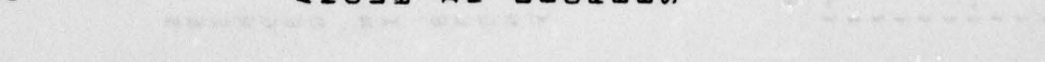
( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 8000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT:  
 ( ( OPERATION:  
 ( ( MILITARY POWER  
 ( ( 100% RPM  
 ( ( BOTH ENGINES  
 ( ( FREE FLOW  
 ( T-38A AIRCRAFT  
 ( J85-GE-5A ENGINE  
 ( FAR FIELD NOISE  
 ( METEOROLOGY:  
 ( TEMP = 15 C  
 ( BAR PRESS = .760 M HG  
 ( REL HUMID = 70 %  
 ( IDENTIFICATION:  
 ( OMEGA 1.4  
 ( TEST 75-002-056  
 ( RUN 03  
 ( 20 OCT 75  
 ( PAGE 26



DISTANCE FROM SOURCE (METERS)



IDENTIFICATION: )  
 )  
 )  
 ) OMEGA 1.4 )  
 ) TEST 75-002-056 )  
 ) RUN 04 )  
 )  
 ) 20 OCT 75 )  
 )  
 )  
 ) PAGE 18 )



( FIGURE: SOUND PRESSURE LEVEL (SPL) )  
 ( 11 EQUAL LEVEL CONTOURS (DB) )  
 ( 63 HZ OCTAVE BAND )  
 ( NOISE SOURCE/SUBJECT: )  
 ( OPERATION: )  
 ( MAXIMUM POWER )  
 ( 100% RPM AND AFTERBURNER )  
 ( BOTH ENGINES )  
 ( FREE FLOW )  
 ( T-38A AIRCRAFT )  
 ( J85-GE-5A ENGINE )  
 ( FAR FIELD NOISE )  
 ( METEOROLOGY: )  
 ( TEMP = 15 C )  
 ( BAR PRESS = .760 M HG )  
 ( REL HUMID = 70 % )  
 ( IDENTIFICATION: )  
 ( OMEGA 1.4 )  
 ( TEST 75-002-056 )  
 ( RUN 04 )  
 ( 20 OCT 75 )  
 ( PAGE 19 )

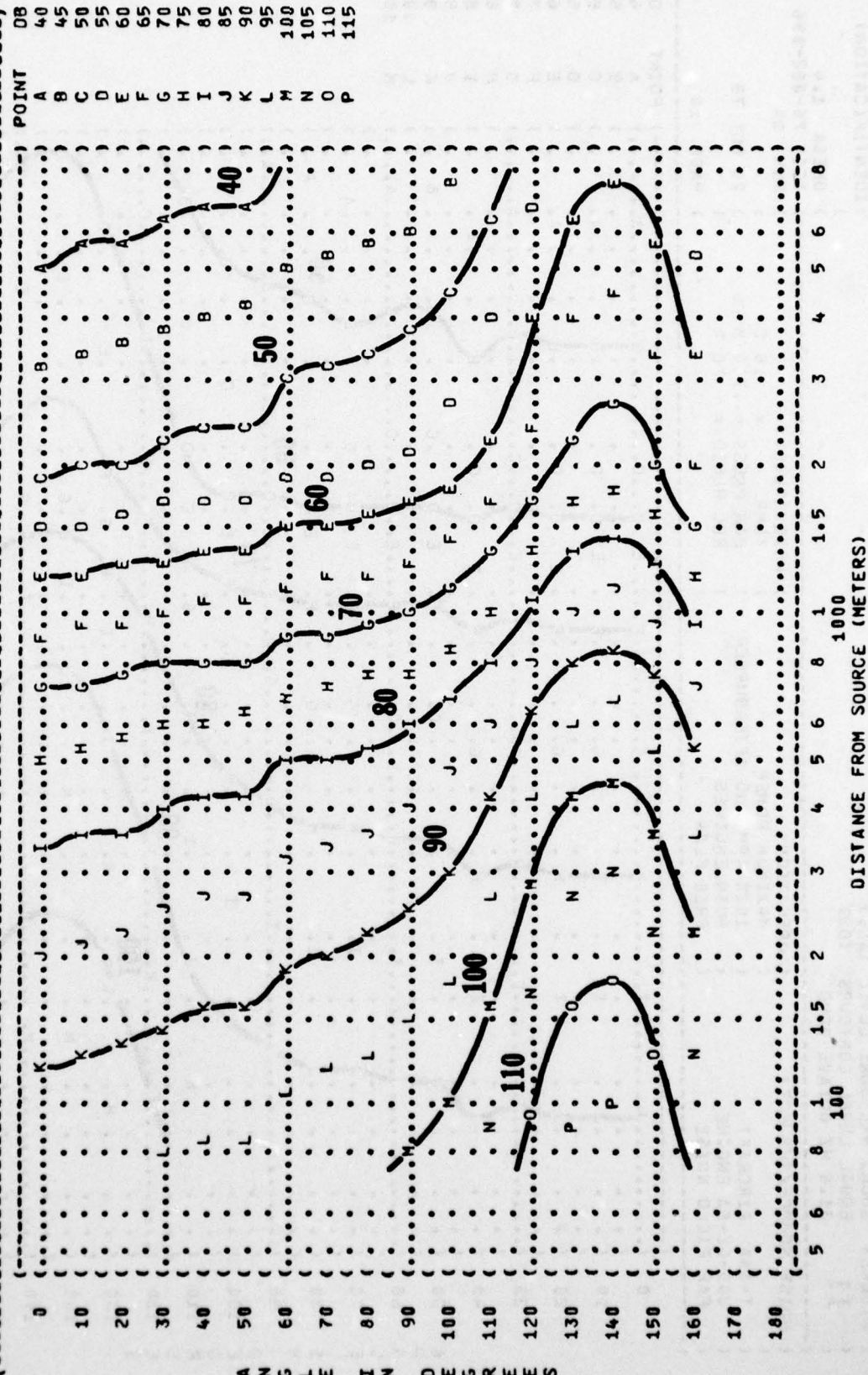






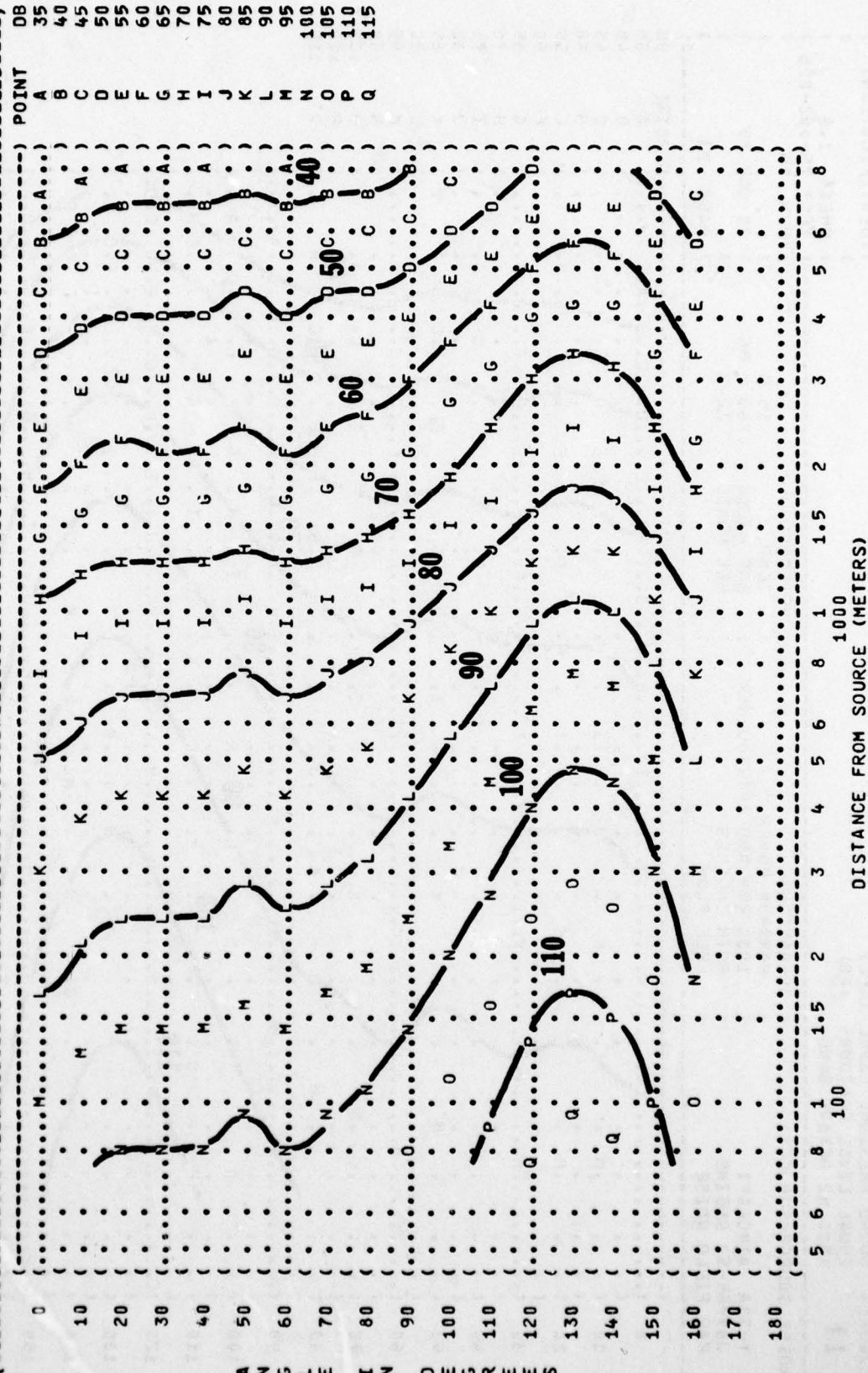




FIGURE: SOUND PRESSURE LEVEL (SPL)  
 11 EQUAL LEVEL CONTOURS (DB)  
 500 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: ( ) IDENTIFICATION: ( )  
 ( ) T-38A AIRCRAFT ( ) OMEGA 1.4  
 ( ) J85-GE-5A ENGINE ( ) TEST 75-002-056  
 ( ) FAR FIELD NOISE ( ) RUN 04

OPERATION: ( ) METEOROLOGY: ( )  
 ( ) MAXIMUM POWER ( ) TEMP = 15 C  
 ( ) 100% RPM AND AFTERBURNER ( ) BAR PRESS = .760 M HG  
 ( ) BOTH ENGINES ( ) REL HUMID = 70 %  
 ( ) FREE FLOW ( ) PAGE 22







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AEROSPACE MEDICAL RESEARCH LAB WRIGHT-PATTERSON AFB OHIO F/G 20/1  
USAF BIOENVIRONMENTAL NOISE DATA HANDBOOK: VOLUME 74. T-38A AIR--ETC(U)  
FEB 77 R G POWELL

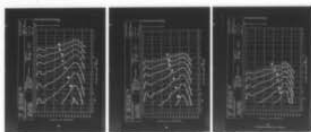
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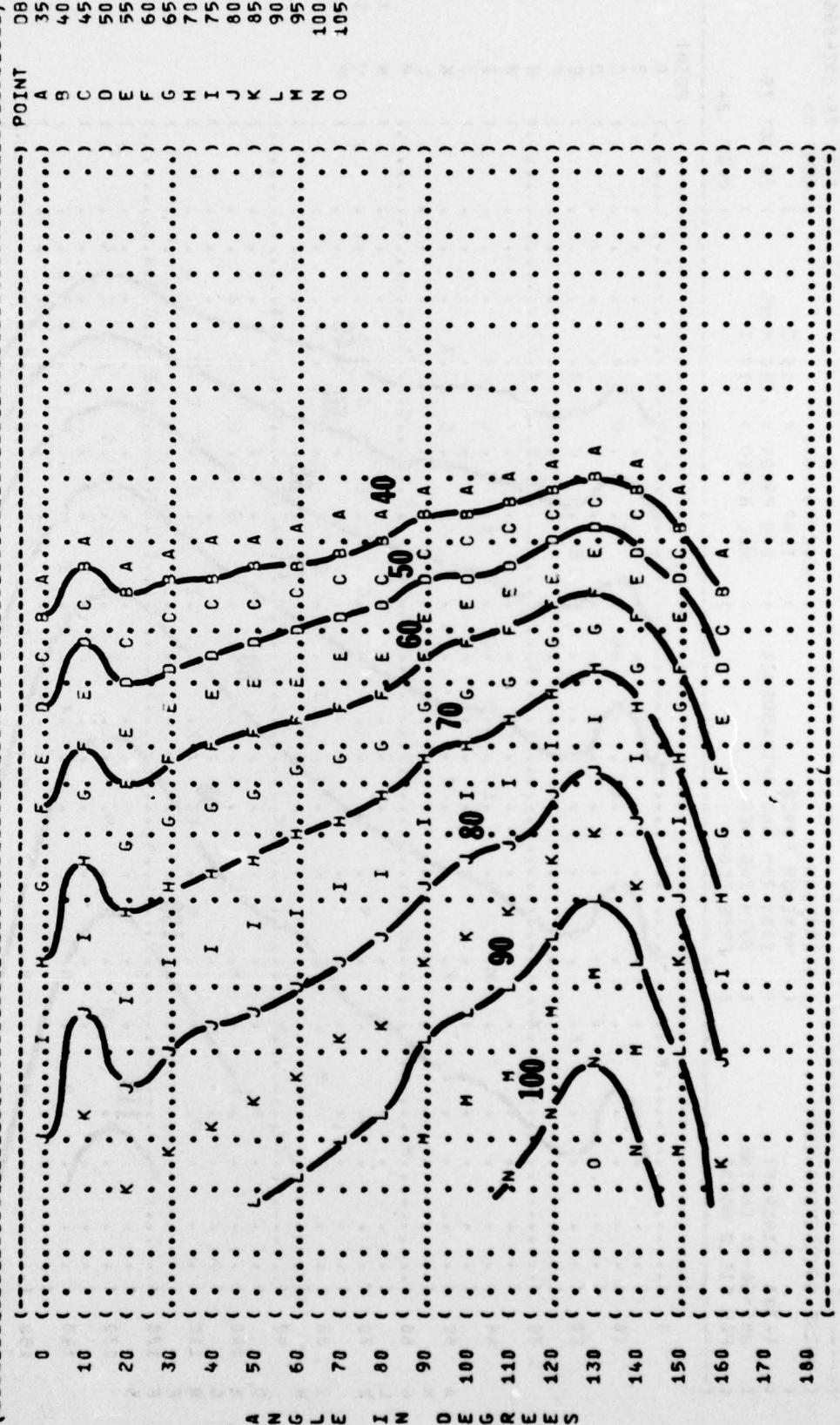
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( FIGURE: SOUND PRESSURE LEVEL (SPL)  
 ( 11 EQUAL LEVEL CONTOURS (DB)  
 ( 4000 HZ OCTAVE BAND  
 ( NOISE SOURCE/SUBJECT: ( OPERATION: ) METEOROLOGY:  
 ( T-38A AIRCRAFT ( MAXIMUM POWER ) TEMP = 15 C  
 ( J85-GE-5A ENGINE ( 100% RPM AND AFTERBURNER ) BAR PRESS = .760 M HG  
 ( FAR FIELD NOISE ( BOTH ENGINES ) REL HUMID = 70 %  
 ( FREE FLOW )  
 ( PAGE 25 )



DISTANCE FROM SOURCE (METERS)



FIGURE: SOUND PRESSURE LEVEL (SPL)  
 11 EQUAL LEVEL CONTOURS (DB)  
 8000 HZ OCTAVE BAND

NOISE SOURCE/SUBJECT: ( ) OPERATION: ( ) METEOROLOGY: ( )  
 ( ) MAXIMUM POWER ( ) TEMP = 15 C  
 ( ) T-38A AIRCRAFT ( ) 100% RPM AND AFTERBURNER ( ) BAR PRESS = .760 M HG  
 ( ) J85-GE-5A ENGINE ( ) BOTH ENGINES ( ) REL HUMID = 70 %  
 ( ) FAR FIELD NOISE ( ) FREE FLOW ( )

IDENTIFICATION: ( )  
 ( ) OMEGA 1.4  
 ( ) TEST 75-002-056  
 ( ) RUN 04  
 ( ) 20 OCT 75  
 ( ) PAGE 26

